"City on the Gulf"

CITY OF VENICE, FLORIDA

Purchasing Department

401 W. Venice Avenue
Venice, FL 34285

Invitation to Bid

ITB Number 2986-14

Date of Issue: April 26, 2014

Submission Deadline: May 28, 2014 at 2:00 PM

Title and Purpose of ITB:

WATER MAIN REPLACEMENT, PHASE 2

INVITATION TO BID

The City of Venice invites sealed bids from qualified bidders to provide the following goods or services, which is described in detail in the Specifications.

Bid No.: **2986-14**

Bid Title: **Water Main Replacement, Phase 2**

PROJECT DESCRIPTION: The City of Venice (hereafter referred to as CITY or OWNER) seeks qualified firms (hereafter referred to as CONTRACTOR or OFFEROR) to furnish and install all necessary materials, equipment, labor, etc., for construction and abandonment of the Water Main Replacement Program – Phase 2 project as described in the Contract Documents.

BID OPENING LOCATION: **City of Venice, Venice City Hall, Community Hall, room # 114, 401 W. Venice Ave., Venice FL 34285**

BID SUBMITTAL DEADLINE and BID OPENING DATE & TIME: May 28, 2014 at 2:00 PM

A pre-bid meeting will be held on May 8, 2014 at 2:00 p.m., Venice City Hall, Community Hall, room # 114, 401 W. Venice Ave., Venice FL 34285. Representatives from the City will be present to discuss the overall project and the Invitation to Bid. Interested Firms are encouraged to attend.

All questions, comments, or concerns about this ITB must be submitted in writing to Mr. Peter Boers, Procurement Manager, for the City of Venice, Room 204, 401 West Venice Avenue, Venice, FL 34285 or e-mail at pboers@venicegov.com. Mr. Boers is the only designated representative of the City authorized to respond to comments, questions, and concerns. The City will not respond to comments, questions or concerns addressed to any person other than Mr. Boers. If the City determines that a particular comment, question or concern necessitates a global response to all Proposers, the City will issue a clarifying memorandum or addendum. **The final day that the City will accept questions will be May 21, 2014 by 1:00 p.m.**

Specifications and Bid documents are available by calling Onvia DemandStar at (800) 711-1712 or by their Internet address at http://www.demandstar.com. Proposers may also pick up Bid documents at the City of Venice Purchasing Department, Room 204, 401 West Venice Ave., Venice Florida 34285, **(941) 486-2626 Ext. 26017** at no charge.

Bids must be submitted in **four sets** and at least one set must bear an original signature, in a sealed envelope marked **"INVITATION TO BID # 2986-14: "WATER MAIN REPLACEMENT, PHASE 2 "** and mailed or delivered to the City of Venice- Purchasing Department, 401 W. Venice Ave. Room # 204, Venice, FL 34285, no later than the deadline specified. The City assumes no responsibility for bids received after the bid submittal time or at any location other than that specified, no matter what the reason. Late bids will be held unopened and will not be considered for award.

Bid Security in the amount of five (5%) percent of the bid is required.

Performance and Payment Bonds are required in the amount of One Hundred (100%) percent of the contract price once a contract is awarded.

No bid will be received after the specified time for acceptance and no bidder may withdraw his bid within a period of one-hundred and eighty (180) days after the actual date of opening thereof.

Bids will be considered only from bidders who have the applicable license, if a license is required by the City of Venice and/or State of Florida, for the type of work specified. A copy of the applicable license must be submitted with bid if a license is required.

The City reserves the right to reject any or all bids in whole or in part, with or without cause, to waive any requirements, irregularities or technical defects therein, when it is deemed to be in the interest of the City.

CITY OF VENICE, FLORIDA

Publish: Saturday, April 26, 2014
Wednesday, April 30, 2014

INVITATION TO BID

CITY OF VENICE, FLORIDA

ITB# 2986-14

Water Main Replacement, Phase 2

SECTION 1: GENERAL CONDITIONS & INSTRUCTIONS TO OFFERORS

DEFINED TERMS

Terms used in this solicitation are defined and have the meaning assigned to them. The term "Offeror" means one that submits a proposal directly to CITY as distinct from a Sub-Offeror, who submits a Proposal to the Offeror. The term "Successful Offeror" means the qualified, responsible and responsive Offeror to whom the City of Venice (on the basis of CITY'S evaluation as hereinafter provided) makes an award. The term "CITY" refers to the City of Venice, a municipal corporation of the State of Florida. The term "ITB" refers to this Sealed INVITATION TO BID. The term "solicitation" refers to the entire ITB package and the Offeror's submittal as a response to this ITB. The term "submittal" refers to all documentation and information as submitted by the Offeror in response to this solicitation. The term "Department" refers to the State of Florida Department of Transportation.

1. OFFEROR REGISTRATION

Offerors who obtain solicitation documents from sources other than the City or download from http://www.demandstar.com/ must officially register receipt of the solicitation with the City's Procurement- Finance Department in order to be placed on the notification list for any forthcoming addendum or other official communications. Failure to register as a prospective Offeror may cause your submittal to be rejected as non-responsive if you have submitted a response without acknowledgment of issued addenda. The City of Venice is not responsible for the accuracy of bid documents and information obtained from any source other than http://www.demandstar.com/.

2. CONTACT

All prospective Offerors are hereby instructed not to contact any member of the City of Venice City Council, City Manager, or City of Venice staff member other than the contact person indicated in this ITB regarding this solicitation or their submittal at any time prior to the final evaluation and recommended ranking by the City staff for this project. Any such contact shall be cause for rejection of your submittal.

3. ADDENDA AND INQUIRIES

3.1 If there is any doubt as to the true meaning of the specifications and information provided, Offerors may submit written or faxed inquiries regarding this solicitation to the Procurement- Finance Department, 401 West Venice Avenue, Room # 204 Venice, FL 34285, Fax No. (941) 486-2790. The City will respond to written or faxed inquiries received by the posted deadline for questions. Inquiries must reference the date and time of opening, and the solicitation number. Failure to comply with this condition shall result in the Offeror waiving their right to dispute the specifications and information provided in the solicitation document.

3.2 Any change to this solicitation shall be made by addenda duly issued to each registered Offeror. Receipt of such addenda must be so noted on or within your response. It is the Offeror's responsibility to make contact through the Internet or phone to determine if Addenda have been issued.

3.3 Oral Inquiries: The City will not respond to oral inquiries.

4. PUBLIC OPENING

Submittals shall be received in the Procurement- Finance Department, 401 W. Venice Ave, Venice, FL 34285 by the date and time indicated on these documents. As soon as possible thereafter, the names of the Offerors and their proposed bid amount shall be read off at the specified location.

5. DELAYS

The City, at its sole discretion, may delay the scheduled due dates indicated above if it is to the advantage of the City to do so. The City will notify Offerors of all changes in scheduled due dates by written addenda.

6. PROPOSAL SUBMISSION AND WITHDRAWAL

6.1 **Address to send submittal:**

Procurement- Finance Department
City of Venice
401 W. Venice Ave, Room # 204.
Venice, FL 34285

6.2 The outside of the envelope/container must be identified with the solicitation number and title as stated above. The envelope/container must also include the Offeror's name and return address.

6.3 Submittals may be withdrawn by an appropriate document duly executed (in the manner that a Submittal must be executed) and delivered to the place where Submittals are to be submitted at any time prior to the deadline for submission. A request for withdrawal or a modification must be in writing and signed by a person duly authorized to do so. Evidence of such authority must accompany the request for withdrawal or modification. Withdrawal of a Submittal will not prejudice the rights of an Offeror to submit a new Submittal prior to the opening date and time. After expiration of the period for receiving Submittals, no Submittal may be withdrawn or modified.

6.4 Withdrawal of Submittals after Opening Date: Submittals, once opened, become the property of the City and will not be returned to the Offerors. Submittals not so withdrawn before the opening constitute an irrevocable offer for a period of one-hundred-eighty (180) days to provide the City the services set forth in these specifications until one or more of the proposals have been accepted by City staff. No Offeror may withdraw their proposal during this one-hundred-eighty (180) day period.

6.5 Number of Submittal Copies: Offerors shall submit four (4) complete sets (one original and three copies) of the submittal complete with all supporting documentation (i.e. photographs, drawings, and exhibits) in a sealed envelope/container marked as noted above.

6.6 Proposal Is Not Binding: The Offeror understands that responding to this solicitation does not constitute an agreement or contract with the Offeror. A submittal is not binding until submittal is reviewed and accepted by the appropriate level of authority and both parties execute a contract.

6.7 Responsibility for getting a submittal to the City on or before the specified date and time is solely and strictly that of the Offeror. The City will not be responsible for any delay, for any reason whatsoever. Submittals by telephone, telegram, facsimile machines, and Internet, will not be acceptable. Submittals must be received and stamped on the outside of the envelope with the time and date, in the Purchasing Department by the date and time specified for opening.

6.8 LATE SUBMITTALS – Submittals received after the date and time of the opening will not be considered and will not be opened. It will be the Offeror's responsibility to make arrangements for the return of their submittal at their expense.

7. PRICES, TERMS AND PAYMENT:

Firm prices shall be bid F.O.B. requesting agency and include packing, handling and shipping charges fully prepaid by the vendor.

7.1 BID PRICE/MISTAKES: The bidder shall show in the proposal both the unit price and the total amount on items when indicated. In the event of discrepancy between the unit price and the extension, THE UNIT PRICE SHALL PREVAIL. Prices shall be extended in decimals.

7.2 INVOICING AND PAYMENT: The vendor shall be paid upon submission of proper certified invoices to the ordering agency at the prices stipulated on the contract. Invoices shall contain the purchase order number. THE VENDOR SHALL ACCEPT NO ORDER WITHOUT A PURCHASE ORDER NUMBER FROM THE CONTRACTING ENTITY. The City reserves the right to pay for purchases made under any agreement resulting from a solicitation through its Purchasing Card Program which utilizes VISA credit cards, check or the ACH (Automated Clearing House) process. When payment is received utilizing the City credit card, an original invoice should not be mailed to the Finance Department. Only the credit card receipt is issued for this charge with the original receipt being provided with the delivery to the individual cardholder placing the order. No surcharges will be accepted for the use of purchasing cards.

7.3 TAXES: The purchase of certain items by the Contracting Entity are exempt from the payment of excise, transportation and sales tax imposed by the Federal, State and/or City governments. Such taxes must not be included in proposal prices. Upon request, applicable Federal Excise Exemption certificates will be furnished.

8. CONDITION AND PRICING:

It is understood and agreed that any item offered or shipped as a result of this bid shall be new (current model at the time of this bid). All containers shall be suitable for storage or shipment and all prices shall include standard commercial packaging.

9. SAFETY STANDARDS:

Unless otherwise stipulated in the bid, all manufactured items or fabricated assemblies shall comply with applicable requirements of occupational Safety and Health Act and any standards

10. MANUFACTURER'S NAME AND APPROVED EQUIVALENTS:

Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for information and not intended to limit competition unless otherwise indicated. The bidder may offer any brand for which he/she is an authorized representative, which meets or exceeds the bid specification for any item(s). If bids are based on equivalent products, indicate on the bid form the manufacturer's product name and reference number. Bidder shall submit with his/her proposal, cuts, sketches, and descriptive literature, and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. The bidder shall explain in detail the reason(s) why the proposed equivalent will meet the specifications and not be considered an exception thereto. Bids that do not comply with these requirements, are subject to rejection. Bids lacking any written indication of intent to quote an alternate brand will be received and considered in complete compliance with the specifications as listed on the bid form. The City's Purchasing Office is to be notified of any proposed changes in (a) materials used, (b) manufacturing process, or (c) construction. However, changes shall not be binding upon the City unless evidenced by a Change Notice issued and signed by the Purchasing Director or designated representative.

11. DELIVERY:

All prices shall be F.O.B. Destination, Venice, Florida. Delivery date and warranties must be written out and submitted with bids. Delivery dates, as specified, must be met.

12. ADDITIONAL PURCHASES ("PIGGY-BACK") BY OTHER PUBLIC AGENCIES:

The vendor, by submitting a bid, authorizes other Public Agencies to "Piggy-Back" or purchase equipment or services being proposed in this invitation to bid at prices bid unless otherwise noted on the proposal sheet.

13. SUBMITTAL PREPARATION COST

The City shall not be liable for any expense incurred in connection with preparation of a submittal to this document. Offerors should prepare a straightforward and concise description of the Offeror's ability to meet the requirements of this document.

14. ACCURACY OF SUBMITTAL INFORMATION

Any Offeror, who states in their submittal any information that is determined to be substantially inaccurate, misleading, exaggerated, or incorrect, shall be disqualified from consideration.

15. LICENSES

Licensed and Certified: Offeror's, both corporate and individual, must be fully licensed and certified for the type of work to be performed in the state of Florida at the time of submittal and during the entire Contract time.

16. LOCAL PREFERENCE

16.1 Unless otherwise noted in the solicitation, preference shall be given to a "local business" in the awarding of any Invitation to Bid (ITB), Request for Proposal (RFP) or Request for Qualifications (RFQ) in accordance with Section 2-217 of the City of Venice's Code. Local preference shall not apply to other types of solicitations unless explicitly stated in the subject solicitation.

16.2 "Local business" means the vendor has paid a local business tax to either Sarasota, Manatee, DeSoto or Charlotte County, whichever county the vendor is located, if applicable prior to bid submission that authorizes the vendor to provide the commodities or services to be purchased, and maintains a permanent physical business address located within the limits of either Sarasota, Manatee, DeSoto or Charlotte County from which the vendor operates or performs business, and at which at least one full time employee is located.

16.3 In addition, fifty percent (50%) or more of the employees based at the local business location must reside within Sarasota, Manatee, DeSoto or Charlotte County.

16.4 In the event the local office is not the primary location of the vendor, at least ten percent (10%) of the vendor's entire full-time employees must be based at the local office location. Alternatively, this requirement may be satisfied if at least one corporate officer, managing partner or principal owner of the vendor resides in Sarasota, Manatee, DeSoto or Charlotte County.

16.5 Offerors wishing to be given preference as a local business must submit **with their offer**, all of the Local Preference documentation identified in the "Required Forms Section" of the solicitation.

16.6 For local preference to be granted, the name of the company represented on the required forms must be the same as the name on the Local Preference documentation.

16.7 Information regarding Sarasota County's Local Business Tax can be found at www.sarasotataxcollector.governmax.com.

16.8 In case of a proposal submitted by more than one entity, any one of those entities can qualify the proposal for the local preference. Sub-contractors or sub-consultants cannot qualify a proposal for local preference.

17. POSTING OF NOTICE OF INTENT

A notice of intent for award will be posted for review by interested parties in City Hall and/or on the City's website prior to submission through the appropriate approval process to the appropriate level for final approval of award.

18. PUBLIC RECORDS/TABULATION

Submittals are not public records, subject to the provisions of Florida State Statutes, Chapters 119 and 120, until such time as notice of a decision or intended decision is provided, or within thirty (30) days after the solicitation opening, whichever is earlier. A copy of the tabulation results will be forwarded upon receipt of a stamped, self-addressed envelope. An electronic tabulation will be posted on Demand Star at their Internet Website at http://www.demandstar.com/.

19. RESERVED RIGHTS

19.1 The City reserves the right to waive formalities in any submittal, and to reject any or all submittals in whole or in part, with or without cause and/or to accept the submittal that in the City's judgment will be in the best interest of the City. The City specifically reserves the right to reject any conditional submittal.

19.2 To the extent permitted by applicable state and federal laws and regulations, City reserves the right to reject any and all submittals, to waive any and all informalities not involving price, time or changes in the work with the Successful Offeror, and the right to disregard all nonconforming, non-responsive, unbalanced or conditional submittals. Submittals will be considered irregular and may be rejected, if they show serious omissions, alterations in form, additions not called for, conditions or unauthorized alterations, or irregularities of any kind.

19.3 City reserves the right to reject the submittal of any Offeror if the City believes that it would not be in the best interest of the City to make an award to that Offeror, whether because the submittal is not responsive or the Offeror is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by City.

19.4 The City reserves the right to terminate the contract with any vendor who fails to meet a deadline or shows incompetency.

20. INDEMNIFICATION/HOLD HARMLESS

The Offeror shall defend, indemnify and hold the City, the City's representatives or agents, and the officers, directors, agents, employees, and assigns of each harmless for and against any and all claims, demands, suits, judgments, damages to persons or property, injuries, losses or expenses of any nature whatsoever arising directly or indirectly from or out of any negligent act or omission of the Offeror, its sub-consultants and their officers, directors, agents or employees; any failure of the elected firm to perform its services hereunder in accordance with generally accepted professional standards; any material breach of the elected firm representations as set forth in the proposal or any other failure of the elected firm's to comply with the obligations on its part to be performed under this contract.

21. PUBLIC ENTITY CRIMES/NON-COLLUSIVE AFFIDAVIT

21.1 Each Offeror shall complete the Non-Collusive Affidavit and the Public Entity Crimes Form and shall submit the forms with the submittal. CITY considers the failure of the Offeror to submit these documents to be a major irregularity and may be cause for rejection of their submittal.

21.2 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 response on a contract to provide any goods or services to a public entity, may not submit a response on a contract with a public entity for the construction or repair of a public building or public work, may not submit responses on leases of real property to a public entity, may not be awarded or perform work as a Offeror, supplier, Sub-Offeror, 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, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

21.3 Termination for Cause: Any Agreement with the City obtained in violation of this Section shall be subject to termination for cause. A Sub-Offeror who obtains a subcontract in violation of this Section shall be removed from the Project and promptly replaced by a Sub-Offeror acceptable to the City.

22. GRATUITIES AND KICKBACKS

22.1 Gratuities: It is unethical for any person to offer, give, or agree to give any employee or for any employee to solicit, demand, accept or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation of any part of program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, audit, or in any other advisory capacity in any proceeding or application, request for ruling, determination claim or controversy, or other particular matter, pertaining to any program requirement or an Agreement or subcontract, or to any solicitation or proposal therefore.

22.2 Kickbacks: It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a Sub-Offeror under a Contract to Offeror or higher tier Sub-Offeror any person associated therewith, as an inducement of the award of a subcontract or order.

22.3 Contract Clause: The prohibition against gratuities and kickbacks prescribed in this section shall be conspicuously set forth in every Contract and subcontract and solicitation therefore.

23. EQUAL EMPLOYMENT OPPORTUNITY

Offeror shall be in compliance with Executive Order 11426 Equal Opportunity as amended by Executive Order 11375, and as supplemented by the Department of Labor Regulations as applicable.

24. CONFLICT OF INTEREST

No employee of an agency acting in his or her official capacity as a purchasing agent, or public officer acting in his or her official capacity, shall either directly or indirectly purchase, rent, or lease any realty, goods, or services for his or her own agency from any business entity of which the officer or employee or the officer's or employee's spouse or child is an officer, partner, director, or proprietor or in which such officer or employee or the officer's or employee's spouse or child, or any combination of them, has a material interest. Nor shall a public officer or employee, acting in a private capacity, rent, lease, or sell any realty, goods, or services to the officer's or employee's own agency, if he or she is a state officer or employee, or to any political subdivision or any agency thereof, if he or she is serving as an officer or employee of that political subdivision. The foregoing shall not apply to district offices maintained by legislators when such offices are located in the legislator's place of business or when such offices are on property wholly or partially owned by the legislator. This subsection shall not affect or be construed to prohibit contracts entered into prior to:

October 1, 1975.
Qualification for elective office.
Appointment to public office.
Beginning public employment

25. DRUG FREE WORKPLACE:

The City of Venice has adopted a policy in observation of the Drug Free Work Place Act of 1988. Therefore, it is unlawful to manufacture, distribute, disperse, possess, or use any controlled substance in the City of Venice workplace.

The City of Venice requests the attached Drug Free Workplace Affidavit to accompany your response. This form has been adopted by the City in accordance with the Drug Free Workplace Act. The City will not disqualify any respondent who does not concur with the affidavit. The Drug Free Workplace Affidavit is primarily used as tiebreaker when two or more separate entities have submitted proposals at the same price, terms and conditions.

26. APPLICABLE LAWS

Interested parties are advised that all City contracts and/or documentation pertinent to this solicitation are subject in full or in part to all legal requirements provided in applicable City Ordinances, State Statutes, and Federal Regulations. Uniform Commercial Code, Chapter 672, Florida State Statutes shall prevail, as the basis for contractual obligations between the Offeror and the City for any terms and conditions not specifically stated within the context of this contract.

27. COMPETENT PERSONNEL

All interested firms are to warrant that services shall be performed by skilled and competent personnel to the highest professional standards in this scope of work.

28. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

28.1 Before delivering a submittal, each Offeror must (a) consider federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, or performance of the work, (b) study and carefully correlate the Offeror's observations with the solicitation documents; and notify the Purchasing Manager of all conflicts, errors and discrepancies, if any, in the solicitation documents.

28.2 The Offeror, by and through delivering a submittal, agrees that they shall be held responsible for having familiarized themselves with the nature and extent of any local conditions that may affect the services.

29. SPECIFICATIONS

29.1 The apparent silence of the specification as to any detail, or the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of the Specifications shall be made on the basis of this statement.

29.2 For the purpose of evaluation, the Offeror must indicate any variance or exceptions to the stated Specifications, no matter how slight. Deviations should be explained in detail. Absence of variations and/or corrections will be interpreted to mean that the Offeror meets all the Specifications in every respect.

30. CANCELLATION CLAUSE

Failure to comply with any of the terms, conditions, specifications and/or service requirements will be just cause for termination of this contract by a thirty (30) day written notice of intent forwarded to the successful Offeror.

31. ACCEPTING CONTENT OF PROPOSAL

By delivering a submittal in response to this solicitation document, the Offeror certifies that they have fully read and understand the context of the solicitation document and have full knowledge of the scope, nature, and detailed requirements of services and/or commodities to be provided and performed. Submittals shall be returned in the sequential manner as requested in the "Submittal Format and Requirements" section of this solicitation.

32. TAXES

The negotiated cost shall include all freight, handling, delivery, surcharges or other incidental charges that may be required to provide the services or deliver the commodities. The City of Venice is exempt from the payment of Federal and State taxes, including sales tax. Your cost proposal shall not include sales tax to be collected from the City. The City's sales tax exemption is not available to you for items you purchase, regardless of whether these items will be transferred to the City.

33. ASSIGNMENT

33.1 Successful Offeror shall not assign, transfer or subject the Contract or its rights, title or interests or obligations therein without CITY'S prior written approval.

33.2 Violation of the terms of this paragraph shall constitute a breach of the Contract by Successful Offeror and CITY may, at its discretion, cancel the Contract and all rights, title and interest of Successful Offeror shall thereupon cease and terminate.

34. SOLICITATION FORMS

34.1 If the Proposer cannot meet a service or equipment requirement, then the phrase "not available" should be entered on the Proposal Form for that service requirement. In the case of a "not available" remark, the Offeror may offer an alternative service. Alternate submittals may be submitted for consideration. It will be at the City's sole discretion to accept or reject any and all alternate submittals received.

34.2 This solicitation presents the City's minimum requirements under present methods of operation. Responses to this request should address these requirements, but Offerors are encouraged to suggest any additional services or commodities, which in their opinion, would be in the best interest of the City.

34.3 Submittals may be delivered, which deviate from the requirements herein, providing that they are clearly identified as alternate submittals and providing further that it can be demonstrated that stated requirements are substantially improved or are not compromised or prejudiced by such deviations; and, that it would be clearly in the interest of the City that an alternative proposal be considered. Such alternative proposals will be provisionally accepted for consideration, subject to the reserved right of the City to make the determination whether the above stated conditions for alternate proposals have been satisfied and subject further to the reserved right of the City to accept or reject these proposals upon the basis of the determination.

35. DISCLOSURE – PUBLIC OFFICER, PUBLIC EMPLOYEE OR ADVISORY BOARD MEMBER OF CITY

35.1 Sections 112.313(3) and 112.313(7), Florida Statutes, prohibit any public officer, employee, or advisory board member of the City from holding any employment or contractual relationship with any business entity doing business with the City.

Section 112.313(12) provides that a public officer, employee, or advisory board member will not be in violation of the prohibition if all three of the following conditions are met. The filing of the disclosure form with the Supervisor of Elections is the sole responsibility of the Proposer and must be filed prior to or at the time of submission of the proposal. A copy of the filed disclosure form shall be submitted as part of the proposal.

35.2 Bid is awarded under a sealed, competitive Proposal to lowest or best Proposer system. Advisory board member is required to, prior to or at the time of the submission of the proposal, file a statement with the Supervisor of Elections, disclosing his interest and the nature of the intended business. The form is entitled "Form 3A Interest in Competitive Proposal for Public Business," a copy of which is available from the City's Procurement- Finance Department.

35.3 The public officer, employee, or advisory board member, spouse, or child is required to have in no way used or attempted to use his influence to persuade a member of the City or any of its personnel to enter into such a contract other than by the mere submission of the proposal.

35.4 The public officer, employee, or advisory board member, spouse, or child is required to have in no way participated in the determination of the Bid specifications or the determination of the lowest or best Proposer.

36. BID PROTESTS

In any case where a bidder wishes to protest either the results of or the intended disposition of any bid, the bidder must:

36.1 File a written notice to the City Manager of the bidder's intention to protest within one (1) business day of the bid opening or the City's declaration of intent with regard to the disposition. Upon receipt of a protest, the bid process shall be suspended until the protest procedure herein described has been completed.

36.2 Within five (5) days of filing the written notice of intent to protest, the protester shall file a formal written protest with the City Manager, acting as the bid protest officer, explaining in detail the nature of the protest and the grounds on which it is based. During this five-day period, the protester is encouraged to attempt to resolve the issue with the City's Finance Department.

36.3 The protester must include with the formal written protest a bid protest bond in the form of a certified check, cashier's check or money order made payable to the city in an amount equal to five percent (5%) of the lowest acceptable bid. The bond will be deposited with the Cashier's Office where it will be put into an account and the protester will receive a receipt.

36.4 Upon timely receipt of the formal written protest and protest bond, the City must:

(1) Issue formal findings of fact and a written decision with regard to the validity or non-validity of the formal written protest within ten (10) business days of the City's receipt of the protest.

(2) Within two (2) business days of receipt of the formal findings of fact and written decision, the City shall notify the protester of the decision of the bid protest officer. Such notification shall be transmitted via certified return receipt mail.

36.5 Should the protest be found to be without merit or validity, the bid protest bond shall be forfeited to the City in its entirety, and the bid process may resume. If a decision favorable in whole or in part to the protest is rendered, a check for the full amount of the bond will be returned to the protester.

37. SCRUTINIZED COMPANIES

Pursuant to Section 287.135, F.S., a company that, at the time of bidding or submitting a proposal for a new contract or renewal of an existing contract, is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473, F.S., is ineligible for, and may not bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of $1 million or more. Any contract with an agency or local governmental entity for goods or services of $1 million or more entered into or renewed on or after July 1, 2011, must contain a provision that allows for the termination of such contract at the option of the awarding body if the company is found to have submitted a false certification as provided under Subsection 287.135(5), F.S., or has been placed on either of the aforementioned lists. The CITY agrees to comply with the requirements of Section 287.135, F.S. in connection with the implementation of the PROJECT.

END OF SECTION

SECTION 2: INSURANCE INFORMATION

Before performing any work, the Contractor shall procure and maintain, during the life of the Contract, insurance listed below. The policies of insurance shall be primary and written on forms acceptable to the City and placed with insurance carriers approved and licensed by the Insurance Department in the State of Florida and meet a minimum financial AM Best and Company rating of no less than A:VII. No changes are to be made to these specifications without prior written specific approval by the City.

1. The City of Venice is to be specifically included as an ***ADDITIONAL INSURED***.

2. The City of Venice shall be named as Certificate Holder. ***Please Note that the Certificate Holder should read as follows:***

The City of Venice
401 W. Venice Avenue
Venice, FL 34285

No City Division, Department, or individual name should appear on the certificate. ***NO OTHER FORMAT WILL BE ACCEPTABLE.***

3. The "Acord" certification of insurance form should be used.

4. Required Coverage

a) **Commercial General Liability:** including but not limited to bodily injury, property damage, contractual liability, products and completed operations, and personal injury with limits of not less than $1,000,000 per occurrence, $1,000,000 aggregate covering all work performed under this Contract. Include broad form property damage (provide insurance for damage to property under the care custody and control of the contractor)

b) **Business Auto Policy:** including bodily injury and property damage for all vehicles owned, leased, hired and non-owned vehicles with limits of not less than $1,000,000 combined single limit covering all work performed under this Contract.

c) **Workers Compensation:** Contractor will provide Workers Compensation Insurance on behalf of all employees, including sub-contractors, who are to provide a service under this Contract, as required under Florida Law, Chapter 440, and Employers Liability with limits of not less than $100,000 per employee per accident; $500,000 disease aggregate; and $100,000 per employee per disease.

d) **Installation Floater/Installation Builders' Risk–Property Coverage:** Policy to cover direct physical loss or damage to materials, supplies, machinery, and equipment being installed, constructed or rigged by the contractor in conjunction with its installation or construction. All items involved in the water main project including drainage/water sewer pipes, etc. (as included in description of project) need to be insured for the total completed replacement value. Coverage should include perils of fire, theft, vandalism, windstorm/hail, collapse and transit, sewer backup, testing, equipment breakdown, waterborne property. Coverage shall start when the items to be installed are transported to City premises and remain in place until the interest of the contractors ceases or the City accepts possession whichever comes first Coverage should apply to owned property and non-owned property in the contractor's care, custody and control. The installation coverage forms shall provide coverage for building materials and supplies at the construction site, in transit to the site and

similar property intended for the construction project at other locations as necessary or because of lack of storage space at the construction site. Coverage should apply on a Primary basis and should include a Waiver of Subrogation. Contractor should be responsible for any deductibles.

5. Policy Form:

a) All policies required by this Contract, with the exception of Workers Compensation, or unless specific approval is given by the City, are to be written on an occurrence basis, shall name the City of Venice, its Elected Officials, Officers, Agents, Employees as additional insured as their interest may appear under this Contract. Insurer(s), with the exception of Workers Compensation, shall agree to waive all rights of subrogation against the City of Venice, its Elected Officials, Officers, Agents, and Employees.

b) Insurance requirements itemized in this Contract, and required of the Contractor, shall be provided on behalf of all subcontractors to cover their operations performed under this Contract. The Contractor shall be held responsible for any modifications, deviations, or omissions in these insurance requirements as they apply to subcontractors.

c) Each insurance policy required by this Contract shall:

(1) apply separately to each insured against whom claim is made and suit is brought, except with respect to limits of the insurer's liability;

(2) be endorsed to state that coverage shall not be suspended, voided or canceled by either party except after thirty (30) calendar days prior written notice by certified mail, return receipt requested, has been given to the City of Venice's Director of Administrative Services.

d) The City shall retain the right to review, at any time, coverage form, and amount of insurance.

e) The procuring of required policies of insurance shall not be construed to limit Contractor's liability nor to fulfill the indemnification provisions and requirements of this Contract.

f) The Contractor shall be solely responsible for payment of all premiums for insurance contributing to the satisfaction of this Contract and shall be solely responsible for the payment of any deductible and/or retention to which such policies are subject, whether or not the City is an insured under the policy. In the event that claims in excess of the insured amounts provided herein are filed by reason of operations under the contract, the amount excess of such claims, or any portion thereof, may be withheld from any payment due or to become due to the contractor until such time the contractor shall furnish additional security covering such claims as may be determined by the City.

g) Claims Made Policies will be accepted for professional and hazardous materials and such other risks as are authorized by the City. All Claims Made Policies contributing to the satisfaction of the insurance requirements herein shall have an extended reporting period option or automatic coverage of not less than two years. If provided as an option, the Contractor agrees to purchase the extended reporting period on cancellation or termination unless a new policy is affected with a retroactive date, including at least the last policy year.

h) Certificates of Insurance evidencing Claims Made or Occurrence form coverage and conditions to this Contract, as well as the City's Bid Number and description of work, are to be furnished to the City's Director of Administrative Services, 401 West Venice Avenue, Venice, FL 34285, ten (10) business days prior to commencement of work and a

minimum of thirty (30) calendar days prior to expiration of the insurance policy.

i) Notices of Accidents and Notices of Claims associated with work being performed under this Contract, shall be provided to the Contractor's insurance company and the City's Director of Administrative Services, as soon as practicable after notice to the insured.

j) All property losses shall be payable to, and adjusted with, the City.

END OF SECTION

SECTION 3: SCOPE OF WORK

1. REQUIREMENTS INCLUDED

The work to be performed under this Contract shall consist of furnishing all tools, equipment, materials, supplies, and furnishing all transportation and services, including fuel, power, water, and essential communications, and performance of all labor, work or other operations required for the fulfillment of the Contract in strict accordance with the specifications, schedules, drawings, and other Contract Documents as herein defined, all which are made a part hereof, and including such detail sketches as may be furnished by the DESIGN PROFESSIONAL from time to time during construction in clarification of said Contract Documents. The work shall be completed and all work, materials, and services not expressly shown or called for in Contract Documents which may be necessary for the complete and proper construction of the work in good faith shall be performed, furnished, and installed by the CONTRACTOR as though originally so specified or shown, at no increase in cost to the OWNER.

2. WORK COVERED BY CONTRACT DOCUMENTS

The Water Main Replacement Program – Phase 2 project includes the following, with necessary materials, equipment, labor, etc., for construction and abandonment as shown on the drawings.

1. A new water main on Ormond Street with service connections to properties on both sides of the Street.
2. A new water main on Apalachicola Road between Madrid Avenue and Matanzas Street, with service connections on both sides of the Road.
3. A new water main on Cadiz Road between Madrid Avenue and Matanzas Street, with service connections to properties on both sides of the Road.
4. A new water main on Madrid Avenue between Narvaezi Street and Barcelona Avenue, with service connections to properties on both sides of the Avenue.
5. A new 8-inch water main on Barcelona Avenue between Park Boulevard and Avenue Des Parques, with service connections to properties on the south side of the Avenue.
6. A new water main on The Esplanade South between Granada Avenue and Ocala Street, with service connections to properties on the east side of the Street.
7. A new water main on Ocala Street between The Esplanade South and the existing rear lot water main, with service connections to properties on the north side of the road.
8. New service connections from the existing water main to properties on Madrid Avenue between The Esplanade North and Barcelona Narvaezi Street, as shown on the plans.
9. New service connections from the existing water main to properties on Barcelona Avenue between Cadiz Road and Madrid Avenue, as shown on the plans.
10. New service connections from the existing water main to properties on West Venice Avenue between The Esplanade South and Avenue Des Parques, as shown on the plans.
11. New service connections from the existing water main to properties on Granada Avenue between Armada Road and Park Boulevard, as shown on the plans.
12. New service connections from the existing water main to properties on Castile Street between The Esplanade South and Valencia Road, as shown on the plans.
13. New service connections from the existing water main to properties on Alhambra Road between The Esplanade South and Park Boulevard, as shown on the plans.
14. New service connections from the existing water main to properties on Gulf Manor Drive between Hunter Drive and Park Boulevard, as shown on the plans.

15. Abandonments of existing water mains within the project area as shown on the plans.

3. CONTRACT METHOD

The work hereunder will be constructed under a UNIT PRICE contract, itemized as set forth in the Bid Schedule and defined in Section 01025 - Measurement and Payment.

The CONTRACTOR shall include the General Conditions and Supplemental Conditions of the Contract as part of all Subcontract Agreements.

4. JURISDICTION

Agencies having jurisdiction over construction of this project include but are not limited to:

- Florida Department of Health
- City of Venice
- Sarasota County

The CONTRACTOR shall secure any permits associated with construction as required by the agency(s) having jurisdiction, shall abide by all rules and regulations of each and shall pay all costs in connection with the permits. The CONTRACTOR shall pay for such permits and inspection fees to ensure compliance with their requirements.

5. NOTICES TO PROPERTY OWNERS, AUTHORITIES, AND DESIGN PROFESSIONALS

A. The CONTRACTOR shall, as provided in General Conditions, notify property owners of adjacent properties and utilities when performance of the WORK may affect them.
B. When it is necessary to temporarily deny access to property owners or tenants to their property, or when any utility service connection must be interrupted, the CONTRACTOR shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and will be delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit their inconvenience.
C. The CONTRACTOR shall contact the property owner, Fire Department, Police Department, Emergency Medical Services, U.S. Postal Department, and OWNER'S REPRESENTATIVE, at least 48 hours prior to closing any street.
D. Utilities and other concerned agencies shall be contacted at least 48 hours prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.
E. The CONTRACTOR shall review with the various utility companies the construction methods and work to be done in the vicinity of utilities. When temporary relocation is necessary sufficient advance notice shall be given by the CONTRACTOR to the utility involved.

6. COORDINATION

It shall be responsibility of the CONTRACTOR to coordinate his operations and those of his subcontractors in such a manner so as to avoid interference or delays and ensure the orderly progress of Work in the areas of common or interdependent construction activities. The limits of the Contract are indicated on the Plans and specified herein. However, these limits may be altered by mutual agreement of the CONTRACTOR with the OWNER, with the

written Agreement of the OWNER'S REPRESENTATIVE, in order to facilitate the work operations.

The work of this Contract may involve coordination with other utility companies or agencies, either performing connection repair or maintenance service on their own facilities. The CONTRACTOR shall coordinate and cooperate with all utility companies and other contractors working in the same area that this Contract entails. This shall include, but not be limited to, the telephone company; the electric power company; the cable television company; the gas company; the highway contractor; all subcontractors; and any other contractors who are performing work within the area of this Contract.

This effort to coordinate and cooperate with all utility companies and other CONTRACTORS shall be toward, but not be limited to, maintaining public access to the various cross streets, residences, commercial establishments, and other institutions within the limits of construction and adjoining streets, and maintaining the area's electric, telephone, cable television, gas, water, and sewer services.

7. REFERENCE STANDARDS

Reference to the standards of any technical society, organization, or association or to codes of local or state authorities shall mean the latest effective standard, code, specification, or standard adopted and published at the date of receipt of bids, unless specifically stated otherwise.

8. AVAILABILITY OF LAND

Work is generally located within the right-of-way of the OWNER, and extends onto private property for service connections. In areas where work will extend beyond right-of-ways or the property lines, the OWNER will secure a use agreement and/or construction easement to facilitate the work.

Nothing in this Contract shall imply that the CONTRACTOR has exclusive use of roadways or public and/or private land employed to perform the work.

9. CONTRACTOR'S USE OF PREMISES

The CONTRACTOR shall maintain his construction operations within the property limits and areas designated by the OWNER. In the event that the CONTRACTOR deems it necessary or advisable to operate beyond the limits as provided by the OWNER, he shall be responsible for coordinating such efforts with the OWNER.

10. SALVAGE OF MATERIAL AND EQUIPMENT

No items shall be salvaged and reused without permission from the OWNER or the OWNER'S REPRESENTATIVE unless specifically stated otherwise in the bid form.

The OWNER reserves the right of first refusal to salvage any item. If so directed by the OWNER'S REPRESENTATIVE, the CONTRACTOR shall deliver to a location any items to be salvaged by the OWNER.

11. STORAGE OF MATERIALS

Storage conditions shall be acceptable to the OWNER for all materials and equipment not incorporated into the Work but included in applications for payment. Such storage arrangements and conditions shall be presented in writing and shall afford adequate and satisfactory security and protection. Off-site storage facilities shall be accessible to the OWNER'S REPRESENTATIVE. The stored materials shall be insured for full value. Certificates of Insurance coverage must be submitted to the OWNER or OWNER'S REPRESENTATIVE with the request for payment by the CONTRACTOR. All arrangements and costs for storage facilities shall be paid by the CONTRACTOR, unless specifically designated in the Contract Documents to be furnished by the OWNER.

END OF SECTION

SECTION 4: SPECIAL CONDITIONS

1. Payment

Retainage of 10 percent of each progress payment made to the contractor shall be withheld until final completion and acceptance of the project by the City of Venice for all construction services contracts exceeding $200,000. Retainage shall not be withheld for construction services contracts of $200,000 or less.

2. Stored Materials

The City of Venice, at its discretion, will pay for stored materials which are safely stored on the project site in accordance with the manufacturer's or supplier's recommendations and in accordance with these Contract Documents. All requests for payment of stored materials shall be accompanied by a paid receipt indicating that the contractor has paid for the materials.

3. Owner's Allowance

This Bid Item entails minor increases to existing bid item quantities or minor modification items not bid which were unforeseen and necessary during the construction to provide a safe, complete project in accordance with the Bid Documents. Authorization for use of any of this Bid Item shall be made by the City of Venice in writing prior to performing the associated work. In general, this item is for unanticipated conflicts and/or design changes required during construction which are necessary to complete the project without changing the initial Scope of Work and without costly delays.

4. Permits

Unless otherwise provided, Contractor shall obtain and pay for all construction permits and licenses. City shall assist Contractor, when possible, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the work.

The following City permits are required for this project:

Right of Way Use Permit Authorization (Application fee is waived)
Site Preparation Permit (Application fee is waived)
Building Permit – See Section 01025, Permit Fee Allowance

5. Warranty

All work, materials and equipment furnished as defined herein shall be guaranteed and warranted by the Contractor for a minimum period of one (1) year, unless otherwise specified, from final acceptance by the City to be free from defects due either to faulty materials or equipment or faulty workmanship. If within one (1) year after the date of final completion or such longer period of time as may be prescribed by laws or regulation or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, Contractor shall promptly, without cost to the City and in

accordance with the City's written instructions, either correct such defective work or remove it from the site and replace it with non-defective work. If Contractor does not promptly comply with the terms of such instruction, City may have the defective work corrected/removed and all direct, indirect and consequential costs of such removal and replacement will be paid by the Contractor.

6. Stipulated Damages

In the event that the work is not completed within the required time, then from the compensation otherwise to be paid to the Contractor, the City may retain the sum of one thousand five hundred thirty-two dollars ($1,532.00) per day for each calendar day that the work remains uncompleted beyond the time limit, which sum shall represent the actual damage which the City will have sustained per day by failure of the Contractor to complete the work within the required time, said sum not being a penalty but being the stipulated damages the City will have sustained in the event of such default by the Contractor.

7. Construction Time

The Contractor shall diligently prosecute the work to completion within 270 days from receipt of a Notice to Proceed.

8. Bid Award

The contract will be awarded to the responsive and responsible Bidder submitting the lowest **Base Bid Total plus City Selected Alternate(s)** provided the bid is reasonable and in the best interest of the City to accept. The City reserves the right to award in any fashion that best suits the needs of the City.

END OF SECTION

SECTION 5: BID INFORMATION

BID INFORMATION:

Bids are mailed or delivered to the following address:

Procurement- Finance Department
Room # 204
401 W. Venice Avenue
Venice, FL 34285

BID OPENING:

There will be a public bid opening at the date and time stated in the Invitation to Bid.

QUESTIONS AND ANSWERS:

Any and all questions must be submitted in writing and addressed to:

Peter Boers
Procurement Manager- Finance Department
City of Venice
401 W. Venice Avenue
Venice, FL 34285
Tel: 941-486-2626 ext. 26017
Fax: 941-486-2790
E-mail: pboers@venicegov.com

All questions submitted will be answered in writing and an Addendum will be sent to all prospective bidders.

THE DEADLINE FOR QUESTIONS CONCERNING THIS ITB IS:

May 21, 2014 at 1:00 PM

END OF SECTION

APPENDIX

REQUIRED FORMS LIST

Each respondent shall return the required information forms as attached:

- Proposal Bond
- Local Preference Form
- Qualifications Statement
- Trench Safety Act Acknowledgment
- Co-operative Procurement with Other Jurisdictions
- Form 3A- Interest in Competitive Bid for Public Business
- Indemnification/Hold Harmless
- FDEP & U.S. EPA Construction Notices of Intent (NOI)
- Statement of References for Contractor
- Contractor's Statement of Sub-contractors
- Drug Free Workplace Certification
- Non-Collusive Affidavit
- Public Entity Crime Information
- Statement of "No Bid" (if applicable)
- Bid Submittal Form

All required forms are included in this package. All forms must be filled out and returned with the firm's proposal.

Failure to do so will result in the firm being considered non-responsive and their proposal will be disallowed.

PROPOSAL BOND

Not to be completed if a certified check is submitted.

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned,

_____ as Principal,

and _____ as Surety

are held and firmly bound unto the City of Venice, Florida, in the sum of

_____ $_____, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that if the attached Proposal of Principal and Surety for work specified as:

_____

all as stipulated in said Proposal, by doing all work incidental thereto, in accordance with the plans and specifications provided heretofore, all within Sarasota County, is accepted and the bidder shall within ten (10) days after notice of said award, enter into a contract, in writing, and furnish the required Performance Bond with surety or sureties to be approved by the Director of Purchasing, this obligation shall be void; otherwise the same shall be in full force and virtue by law and the full amount of this Proposal Bond will be paid to the City as stipulated or liquidated damages.

Signed this _____ day of _____, 2014.

_____	_____
Principal	Surety

Principal must indicate whether corporation, partnership, company, or individual.

The person signing shall, in his own handwriting, sign the Principal's name, his own name, and his title. The person signing for a corporation must, by affidavit, show his authority to bind the corporation.

THIS PAGE MUST BE COMPLETED & SUBMITTED WITH OFFER

HOW DO I DETERMINE "LOCAL PREFERENCE"

The following questions will help you determine local preference for your company.
Please answer questions 1 through 4 **FIRST**. If you answer **NO** to any questions 1 through 4, local preference does **NOT** apply.
ONLY if you answer **YES** to questions 1 through 4, may you proceed to question 5.
If you answer **YES** to any questions 5 through 7, local preference applies.
If you are unsure of how to answer any questions, please contact the City of Venice's Purchasing Department at 941-486-2626.

Questions 1 – 4

1. Have you paid a local business tax either to Sarasota, DeSoto or Charlotte County (Manatee County does not have a local business tax) authorizing your company to provide goods or services described in this solicitation ?

   YES ___ If "yes", proceed to question 2.
   NO ____ If "no", STOP, local preference does not apply.
   ***** If the name on the local business tax receipt is not the same as the name on the bid/solicitation submittal, local preference does not apply.

2. Does your company maintain a permanent physical business address located within the limits of Sarasota, Manatee, DeSoto or Charlotte County ?

   YES ____ If "yes", proceed to question 3.
   NO ____ If "no", STOP, local preference does not apply.

3. Does your local business office (identified in question 2) have a least one full time employee ?

   YES ____ If "yes", proceed to question 4.
   NO _____ If "no", STOP, local preference does not apply.

4. Do at least fifty percent (50%) of your company employees who are based in the local business location (identified in question 2) reside within Sarasota, Manatee, DeSoto or Charlotte County ?

   YES ____ If "yes", proceed to question 5.
   NO ____ If no, STOP, local preference does not apply.

Questions 5 – 7

5. Is your local business office (identified in question 2) the primary location (headquarters) of your company ?

   YES ____ If "yes", STOP, local preference applies.
   NO ____ If "no", proceed to question 6.

THIS PAGE MUST BE COMPLETED & SUBMITTED WITH OFFER

6. If the local business office (identified in question 2) is not the primary location of your company, are at least ten percent (10%) of your company's entire full-time employees based at the local office location ?

YES ____ If "yes", STOP, local preference applies
NO ____ If "no", proceed to question 7

7. If your local business office is not the primary location of your company, does at least one corporate officer, managing partner or principal owner of the company reside in Sarasota, Manatee, DeSoto or Charlotte County ?

YES ____ If "yes", STOP, local preference applies
NO ____ If "no", local preference does not apply.

THIS PAGE MUST BE COMPLETED & SUBMITTED WITH OFFER

QUALIFICATIONS STATEMENT

The undersigned certifies under oath the truth and correctness of all statements and all answers to questions made hereinafter:

SUBMITTED TO: CITY OF VENICE
Procurement- Finance Department
401 W. Venice Avenue
Venice, Florida 34285

CHECK ONE:
- ☐ Corporation
- ☐ Partnership
- ☐ Individual
- ☐ Joint Venture
- ☐ Other

SUBMITTED BY:

NAME: _____
ADDRESS: _____
PRINCIPLE OFFICE: _____

State the true, exact, correct and complete legal name of the partnership, corporation, trade or fictitious name under which you do business and the address of the place of business.

The correct name of the Offeror is: _____

The address of the principal place of business is: _____

If the Offeror is a corporation, answer the following:

a. Date of Incorporation: _____

b. State of Incorporation: _____

c. President's Name: _____

d. Vice President's Name: _____

e. Secretary's Name: _____

f. Treasurer's Name: _____

g. Name and address of Resident Agent: _____

If Offeror is an individual or partnership, answer the following:

a. Date of Organization: _____

b. Name, address and ownership units of all partners:

_____

_____

_____

c. State whether general or limited partnership: _____

If Offeror is other than an individual, corporation partnership, describe the organization and give the name and address of principals:

_____

_____

_____

THIS PAGE MUST BE COMPLETED & SUBMITTED WITH OFFER

_____

_____

If Offeror is operating under fictitious name, submit evidence of compliance with the Florida Fictitious Name Statute.

How many years has your organization been in business under its present business name?

_____

a. Under what other former names has your organization operated?

_____

_____

_____

_____

ACKNOWLEDGEMENT

State of _____

County of _____ } SS.

On this the _____ day of _____, 2014, before me, the undersigned Notary Public of the State of _____, personally appeared _____ and (Name(s) of individual(s) who appeared before notary) whose name(s) is/are Subscribed to the within instrument, and he/she/they acknowledge that he/she/they executed it.

_____

NOTARY PUBLIC, STATE OF _____

NOTARY PUBLIC
SEAL OF OFFICE:

_____

(Name of Notary Public: Print, stamp, or type as commissioned)

☐Personally known to me, or ☐Produced Identification: _____ ☐ **DID** take an oath, or ☐**DID NOT** take an oath

TRENCH SAFETY ACT ACKNOWLEDGMENT

Bidder acknowledges that included in the various items of the proposal and in the total bid price, are costs for complying with the Florida Trench Safety Act (90-96 Laws of Florida) effective October 1, 1990. The bidder further identifies the costs to be summarized below:

Trench Safety Measure Description	Unit of Measure	Unit Quantity	Unit Cost	Extended Cost
A.				
B.				
C.				
D.				
E.				

Total: $_____

Failure to complete the above may result in the bid being declared non-responsive.

CONTRACTOR NAME: _____

BUSINESS NAME: _____

By: _____
Signature of Authorized Representative

Date:_____

COOPERATIVE PROCUREMENT WITH OTHER JURISDICTIONS

The vendor, by submitting a bid, authorizes other Public Agencies to "Piggy-Back" or purchase equipment or services being proposed in this invitation to bid at prices bid unless otherwise noted on the proposal sheet.

Yes_____ No_____

. **AUTHORIZED SIGNATURE**

By submission of the ITB, the undersigned certifies that:

1. He/She has not paid or agreed to pay any fee or commission, or any other thing of value contingent upon the award of this contract, to any City of Venice, Florida employee or official or to any current consultant to the City of Venice, Florida;
2. He/She has not paid or agreed to pay any fee or commission or any other thing of value contingent upon the award of this contract to any broker or agent or any other person;
3. The prices contained in this proposal have been arrived at independently and without collusion, consultation, communication or agreement intended to restrict competition.
4. He/She has the full authority of the Offeror or to execute the proposal and to execute any resulting contract awarded as the result of, or on the basis of, the proposal.

Authorized Representative: _____

Signature: _____

Title: _____

Company Name: _____

Address: _____

City, State, ZIP: _____

Telephone Number: _____

Fax Number: _____

E-mail address: _____

FORM 3A INTEREST IN COMPETITIVE BID FOR PUBLIC BUSINESS

LAST NAME — FIRST NAME — MIDDLE INITIAL	OFFICE / POSITION HELD
MAILING ADDRESS	AGENCY
CITY ZIP COUNTY	ADDRESS OF AGENCY

WHO MUST FILE THIS STATEMENT

Sections 112.313(3) and 112.313(7), Florida Statutes, prohibit certain business relationships on the part of public officers and employees, their spouses, and their children. *See* Part III, Chapter 112, Florida Statutes, and/or the brochure entitled "A Guide to the Sunshine Amendment and Code of Ethics for Public Officers and Employees" for more details on these prohibitions. However, Section 112.313(12), Florida Statutes, provides certain limited exemptions to the above-referenced prohibitions, including one where the business is awarded under a system of sealed, competitive bidding; the public official has exerted no influence on bid negotiations or specifications; AND where disclosure is made, prior to or at the time of the submission of the bid, of the official's or his spouse's or child's interest and the nature of the intended business. This form has been promulgated by the Commission on Ethics for such disclosure, *if and when applicable* to a public officer or employee.

INTEREST IN COMPETITIVE BID FOR PUBLIC BUSINESS *(Required by § 112.313(12)(b), Fla. Stat.)*

1. The competitive bid to which this statement applies has been / will be (strike one) submitted to the following government agency:

2. The person submitting the bid is: **NAME ▼** **POSITION ▼**

3. The business entity with which the person submitting the bid is associated is:

4. My relationship to the person or business entity submitting the bid is as follows:

5. The nature of the business intended to be transacted in the event that this bid is awarded is as follows:

   a. The realty, goods, and / or services to be supplied specifically include:_____

   b. The realty, goods, and / or services will be supplied for the following period of time:_____

   c. Will the contract be subject to renewal without further competitive bidding? ☐ Yes ☐ No. If so, how often?

6. Additional comments:

7. SIGNATURE	DATE SIGNED	DATE FILED

FILING INSTRUCTIONS

If you are a state officer or employee required to disclose the information above, please file this form with the Department of State in Room 316, R.A. Gray Building, 500 South Bronough Street, Tallahassee, Florida 32399-0250. If you are an officer or employee of a political subdivision of this state and are subject to this disclosure, please file the statement with the Supervisor of Elections of the county in which the agency in which you are serving has its principal office.

NOTICE: UNDER PROVISIONS OF FLORIDA STATUTES §112.317, A FAILURE TO MAKE ANY REQUIRED DISCLOSURE CONSTITUTES GROUNDS FOR AND MAY BE PUNISHED BY ONE OR MORE OF THE FOLLOWING: IMPEACHMENT, REMOVAL OR SUSPENSION FROM OFFICE OR EMPLOYMENT, DEMOTION, REDUCTION IN SALARY, REPRIMAND, OR A CIVIL PENALTY NOT TO EXCEED $10,000.

CE FORM 3A — REV. 1-95

INDEMNIFICATION/HOLD HARMLESS

The elected firm shall (if required by City) defend, indemnify and hold the City, the City's representatives or agents, and the officers, directors, agents, employees, and assigns of each harmless for and against any and all claims, demands, suits, judgments, damages to persons or property, injuries, losses or expenses of any nature whatsoever (including attorneys' fees at trial at appellate level) arising directly or indirectly from or out of any negligent act or omission of the elected firm, its Sub-Offerors and their officers, directors, agents or employees; any failure of the elected firm to perform its services hereunder in accordance with generally accepted professional standards; any material breach of the elected firm's representations as set forth in the proposal or any other failure of the elected firm to comply with the obligations on its part to be performed under this contract.

I, _____, being an authorized representative of the firm of

_____ located at City

_____, State _____, Zip Code _____ Phone:

_____ Fax: _____. Having read and

understood the contents above, hereby submit accordingly as of this Date,

_____, 2014.

_____
Please Print Name

_____
Signature

This signed document shall remain in effect for a period of one (1) year from the date of signature or for the contract period, whichever is longer.

CITY OF VENICE, FLORIDA
FDEP & U.S. EPA CONSTRUCTION NOTICES OF INTENT (NOI)

The undersigned bidder acknowledges the requirement of the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) which have published the rules for NPDES General Permits for stormwater discharges from construction sites and said bidder agrees to assist the owner in the preparation of these permits and associated plans. The bidder acknowledges that he has taken these permits and associated construction costs into account in the preparation of his lump sum bid. These permits are mandated under Section 402(p) of the Clean Water Act for "Stormwater Discharge from Construction Activities (including clearing, grading, and excavation activities) that result in the disturbance of five (5) or more acres total land area, including areas that are part of a larger common plan of development or sale." The EPA has published summary guidance for: "Developing Prevention Plans and Best Management Practices" (EPA 833-R-92-001, October 1992).

The EPA permit format is a *Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity to be covered under a NPDES Permit*, and it is to be submitted according to the NOI instructions. The Stormwater Pollution Prevention Plan which must accompany the NOI must be signed by authorized representatives of the contractor and subcontractors as well as the facility Owner. Copies of the EPA NOI must be provided to state and local agencies who have issued stormwater management, grading, or land alteration permits or approvals.

An NOI must also be submitted to the Florida Department of Environmental Protection, NPDES Stormwater Notices Center, MS 2510, 2600 Blair Stone Road, Tallahassee, FL 32399. FDEP forms may be downloaded from the State's web site http://www.dep.state.fl.us/water/stormwater/npdes/ or phone 850-921-9870 if you have questions.

Acceptance of the bid to which this certification and disclosure applies in no way represents the Owner or its Representative has evaluated and thereby determined that the information is adequate to comply with the applicable U.S. EPA or FDEP requirements nor does it in any way relieve the contractor of its sole responsibility to comply with the applicable U.S. EPA and FDEP requirements, including inspection of all control measures at least once each week and following any storm (rainfall) event of 0.5 inches or greater and maintaining reports of each inspection.

Bidder (Company): _____

Name and Title: _____

Address: _____

_____

Telephone: _____

BY SIGNATURE BELOW OF AUTHORIZED REPRESENTATIVE, CONTRACTOR ACKNOWLEDGES RECEIPT OF A COPY OF CITY ORDINANCES 95-12 and 96-09 AND AGREES TO ABIDE BY THE REQUIREMENTS OF SAID ORDINANCES.

Signature:_____
Date:_____
Printed name/title:

ORDINANCE 95-12

AN ORDINANCE OF THE CITY OF VENICE, FLORIDA, AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 9, HEALTH AND SANITATION, ARTICLE IV, DISPOSAL OF EXCRETA, SECTION 9-71, DISCHARGE OF RAW SEWAGE INTO STORMWATER; DELETING ARTICLE V, PROHIBITED STORMWATER DISCHARGES; ADDING CHAPTER 19, WATER AND SEWERS, ARTICLE VI, STORMWATER QUALITY; DELETING CHAPTER 15, STREETS AND SIDEWALKS, ARTICLE IV, EXCAVATIONS, SECTION 15-53, STORM DRAINAGE AND POLLUTION; PROVIDING FOR CONFLICT WITH OTHER ORDINANCES; PROVIDING FOR A SEVERABILITY CLAUSE AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, control of stormwater runoff is necessary from individual lots that do not require a permit from the Southwest Florida Water Management District and requiring compliance with the provisions of the Clean Water Act 33 U.S.C.1251 et.seq., as amended by the Water Quality Act of 1987; and

WHEREAS, the City is desirous of complying with its U.S. Environmental Protection Agency National Pollutant Discharge Elimination System Permit and its Stormwater Master Plan, therefore, stormwater runoff and any discharge to the City storm sewer system will be closely monitored and regulated; and

WHEREAS, the control of stormwater runoff is the responsibility of each individual property owner; and

WHEREAS, the City is desirous of controlling stormwater runoff and insuring compliance with the Comprehensive Plan.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA:

SECTION 1. Chapter 9, Water and Sewers, Article IV, Disposal of Excreta, Section 9-71, Discharge of Raw Sewage into Storm Sewer, is amended to read as follows:

Sec. 9-71. Discharge of raw sewage into storm sewer.

It shall be unlawful for any person to discharge raw sewage or to discharge the effluent of and from any septic tank into the storm sewer system of the city or to construct or maintain any system of drainage, pipes, conduits or other apparatus whereby raw sewage or the effluent of and from any septic tank shall or may be discharged into or through the storm sewer system of the city.

SECTION 2. Chapter 9, Water and Sewers, Article V, Prohibited Stormwater Discharges, is deleted in its entirety.

SECTION 3. Chapter 19, Water and Sewers, Article VI, Stormwater Quality is added to read as follows:

ARTICLE VI. STORMWATER QUALITY

Sec. 19-141. Definitions.

As used in this article "industrial stormwater" means stormwater runoff from a site with industrial activities, as defined under 40 CFR Section 122.26(a)(14) U.S. Environmental Protection Agency regulation.

As used in this article "construction sites" refers to all sites.

As used in this article, "illicit discharge" is any discharge of anything other than stormwater to the municipal separate storm sewer system (MS4) or the waters of the State of Florida or the United States.

As used in this article "industrial wastewater" refers to liquids used by an entity in their course of business, that if discharged to the MS4, would degrade the quality of stormwater.

Sec. 19-142. Disposal of industrial stormwater discharges.

The following types of discharges to the municipal separate storm sewer of the city must be controlled as indicated.

(1) **Industrial wastewater/illicit discharge**: Industrial wastewater/illicit discharge may not be discharged to the city's municipal separate storm sewer system.

(2) **Industrial stormwater**: As required to comply with NPDES regulations, the quality of industrial stormwater which is discharged through the city's municipal separate storm sewer system may be subject to regulation or permitting, and any violation of such regulation or permit may be subject to an order to immediately cease such discharge.

Sec. 19-143. Runoff stormwater and Best Management Practice (BMPs) for construction sites.
BMPs shall be implemented as necessary, to insure that all discharges from construction activities are in compliance with the City of Venice EPA/NPDES Stormwater Permit and the Stormwater Master Plan, or the SWFWMD Permit or EPA's NPDES Construction Activity General Permit, whichever is most stringent in its requirements.
Best Management Practices include but are not limited to, the following requirements:
(a) All site grading shall be conducted in such a manner that all stormwater management facilities located adjacent to the site are not altered in any way which will diminish their designated flow or pollutant removal capacity or the shape of the drainage facility.
(b) Maintenance of vegetative buffers or use of a silt fence and/or staked hay bales which minimize erosion and retain sediment on site, shall be implemented prior to any construction activities taking place at sites which discharge to surface water or the municipal separate storm sewer system (MS4). These controls, when utilized, shall be secured and properly maintained during construction activities until the site has been stabilized with sod and/or seed and mulch. A double silt fence may be required as an additional measure to insure that discharges from the site are in compliance with water quality standards as established by the EPA/NPDES Stormwater Permit. Undisturbed vegetative buffers shall be maintained intact to the maximum extent possible to reduce erosion and the discharge of sediment from stormwater runoff. All areas of exposed soil shall be stabilized within 72 hours of attaining final grade.
(c) Storm sewer systems (eg. inlets, pipes and ditches, etc.) adjacent to the site must be protected by a silt fence and/or staked hay bales during construction, to keep solids from entering conveyance systems.
(d) Vehicles such as concrete or dump trucks and other construction equipment shall not be washed at locations where the runoff will flow directly into a lake, wetland, watercourse or stormwater conveyance system. Special areas must be designated for washing vehicles. In all new subdivisions, a wash area may be established by the owner/developer which can be used by the site contractor and home builders. If established, wash areas shall be located where the wash water will spread out and evaporate or infiltrate directly into the ground, or where the runoff can be collected in a temporary holding or seepage basin. Gravel or rock bases are recommended for temporary holding or seepage basins, to minimize mud generation. Underdrains shall be installed where infiltration basins are provided as required by the owner/developer's engineer or the Southwest Florida Water Management District. Upon completion of the project, the wash areas shall be graded and stabilized and any trash or waste shall be collected and disposed of properly.
(e) Fuel, chemicals, cements, solvents, paints, topsoil, or other potential water pollutants shall be stored in areas where they will not cause runoff pollution. Toxic chemicals and materials, such as pesticides, paints, and acids, must be stored in accordance with manufacturer's guidelines. Groundwater resources shall be protected from leaching by placing a plastic mat, packed clay, tar paper, or other impervious material on any areas where toxic liquids are to be opened and stored.
(f) A minimum of one permitted driveway must be established prior to construction and shall be used as the only access for ingress/egress during construction in order to provide minimum disturbance of drainage facilities and vegetative cover on site.

Sec. 19-44. Owner responsibility for stormwater runoff.
(a) The control of stormwater runoff is the responsibility of each individual property owner.
(b) Any property owner constructing or causing to be constructed any building which requires an elevated slab and the elevation of the building pad is higher than that of adjoining properties, will control stormwater runoff during construction. Likewise, any property that is filled more than twelve inches above the adjacent property must provide additional control measures for stormwater during construction. Upon completion of the work, all stormwater runoff shall flow to its natural preconstruction drainage swale, ditch, etc., or be retained in a retention or detention pond(s) designed and constructed for that purpose.
(c) For any construction where the elevation of the building pad or site fill will be higher than adjoining properties, construction plans certified by a professional engineer registered with the State of Florida, retained by the property owner, will be provided to the City prior to issuance of a building permit.
(d) Any single lot not covered under Southwest Florida Water Management District rules, exceeding forty-five percent in impervious coverage (including buildings, drives, sidewalks, patios, etc.) shall require

stormwater retention facilities to be designed by a Florida registered engineer. The design is to meet the City of Venice EPA/NPDES Permit requirements for quantity and quality of treatment.
(e) The property owner's engineer will be required to certify to the City Engineer that construction was completed in accordance with the certified plans, prior to issuance of a Certificate of Occupancy.

(f) All improvements to property affecting stormwater drainage must be done in compliance with the City's Comprehensive Plan.

Sec. 19-145. Illicit discharges.
It shall be unlawful for any person to discharge anything other than stormwater into the city's municipal separate storm sewer system whether such discharges occur through piping connections, runoff, exfiltration, infiltration, seepage, or leaks. No person may maintain, use, or establish any direct or indirect connection to any storm sewer owned by the city that results in any discharge in violation of any provision of federal, state, city, or other law or regulation. This provision is retroactive to January 1, 1995, and applies to connections made prior to the effective date of this provision, regardless of whether made under a permit, or other authorization, or whether permissible under laws or practices applicable or prevailing at the time the connection was made.

No materials other than those composed entirely of stormwater shall be disposed of, dumped, or spilled into the city's municipal separate storm sewer system, whether such materials are in a solid or liquid form.

Sec. 19-146. Inspections.
It shall be the duty of the city engineer or designee to carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance with this article.
SECTION 4. Chapter 15, Streets and Sidewalks, Article IV, Excavations, Section 15-53, Storm Drainage and Pollution, is deleted in its entirety.
SECTION 5. To the extent of any conflict between the provisions of this Ordinance, and any other Ordinance, Resolution, or Agreement of the City of Venice, Florida, the provisions of this Ordinance shall prevail.
SECTION 6. Severability. If for any reason a provision of this Ordinance or the application thereof to any person, group of persons, or circumstances is held invalid, the invalidity shall not effect other provisions or applications of the Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of the Ordinance are severable.
SECTION 7. Effective Date. This Ordinance shall take effect immediately upon its adoption, as required by law.

PASSED BY THE COUNCIL OF THE CITY OF VENICE, FLORIDA, THIS 23RD DAY OF MAY, 1995.
First Reading: May 9, 1995 - Final Reading: May 23, 1995 - ADOPTION: May 23, 1995
ATTEST: /s/LORI STELZER, CMC,CITY CLERK /S/ MERLE L. GRASER, MAYOR

I, LORI STELZER, City Clerk of the City of Venice, Florida, a municipal corporation in Sarasota County, Florida, do hereby certify that the foregoing is a full and complete, true and correct copy of an Ordinance duly adopted by the Venice City Council, at a meeting thereof duly convened and held on the 23rd day of May, 1995, a quorum being present.

WITNESS my hand and the official seal of said City this 24th day of May, 1995.
/S/ LORI STELZER, CMC, CITY CLERK Approved as to form: /S/ ROBERT C. ANDERSON, CITY ATTORNEY

ORDINANCE 96-09

AN ORDINANCE OF THE CITY OF VENICE, FLORIDA, AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 19, WATER AND SEWERS, ARTICLE VI, STORMWATER QUALITY, SECTION 19-141, DEFINITION FOR INDUSTRIAL STORMWATER, SECTION 19-146, INSPECTIONS, PROVIDING FOR CONFLICT WITH OTHER ORDINANCES; PROVIDING FOR A SEVERABILITY CLAUSE AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Venice is responsible for the conservation, management, protection, control, use and enhancement of stormwater within its corporate limits, and for the acquisition, management, maintenance, extension, and improvement of the stormwater systems in the City; and

WHEREAS, the Environmental Protection Agency/National Pollutant Discharge Elimination System (EPA/NPDES) permit requires certain amendments to the existing Ordinance and extension of inspection authority on private properties.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA:

SECTION 1. Chapter 19, Water and Sewers, Article VI, Stormwater Quality, Section 19-141, Definition, for Industrial Stormwater is amended to read as follows:

Sec. 19-141. Definitions.

As used in this article, "industrial stormwater" means stormwater runoff from a site with industrial activities, as defined under 40 CFR Section 122.26 (~~a~~) (b) (14), U.S. Environmental Protection Agency regulation.

SECTION 2. Chapter 19, Water and Sewers, Article VI, Stormwater Quality, Section 19-146, Inspections, is amended to read as follows:

Sec. 19-146. Inspections.

It shall be the duty of the city engineer or designee to carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance with this article. The city engineer or his duly authorized agents may enter at all reasonable times in or upon any private or public property for the purpose of inspecting and investigating conditions and practices which may be a violation of this ordinance, regulation or permit. The city engineer may, whenever necessary, make an inspection of construction sites to enforce any of the provisions of this ordinance, regulation or permit issued hereunder, or whenever an authorized official has reasonable cause to believe there exists any condition constituting a violation of this ordinance, regulation or permit issued hereunder. The city engineer shall inspect the work and shall require the owner to obtain services to provide adequate on-site inspection. If the city engineer finds that eroded soils are leaving the construction site, the city engineer may direct the owner(s) or his agents or his contractor on the site by written order to install any and all erosion controls that are deemed necessary to prevent said soil erosion from migrating off site. Notwithstanding the existence or pursuit of any other remedy, the City may maintain an action in its own name in any court of competent jurisdiction for an injunction or other process against any person to restrain or prevent violations of this ordinance.

SECTION 3. To the extent of any conflict between the provisions of this Ordinance, and any other Ordinance, Resolution, or Agreement of the City of Venice, Florida, the provisions of this Ordinance shall prevail.

SECTION 4. Severability. If for any reason a provision of this Ordinance or the application thereof to any person, group of persons, or circumstances is held invalid, the invalidity shall not effect other provisions or applications of the Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of the Ordinance are severable.

SECTION 5. Effective Date. This Ordinance shall take effect immediately upon its adoption, as required by law.

PASSED BY THE COUNCIL OF THE CITY OF VENICE, FLORIDA, THIS 26TH DAY OF MARCH, 1996.

First Reading: March 12, 1996 - Final Reading: March 26, 1996 - ADOPTION: March 26, 1996

ATTEST: /s/LORI STELZER, CMC,CITY CLERK /S/ MERLE L. GRASER, MAYOR

I, LORI STELZER, City Clerk of the City of Venice, Florida, a municipal corporation in Sarasota County, Florida, do hereby certify that the foregoing is a full and complete, true and correct copy of an Ordinance duly adopted by the Venice City Council, at a meeting thereof duly convened and held on the

6th day of March, 1996, a quorum being present.
WITNESS my hand and the official seal of said City this 27th day of March, 1996.
/S/ LORI STELZER, CMC, CITY CLERK Approved as to form: /S/ ROBERT C. ANDERSON, CITY ATTORNEY.

STATEMENT OF REFERENCES
FOR CONTRACTOR

NAME OF CONTRACTOR: _____

BUSINESS ADDRESS: _____

How many years have you been engaged in the business under the present firm name? _____

List previous business experience: _____

_____

List at least three construction references:

(1) Person to contact: _____

Company Name: _____

Address: _____

Telephone: _____ Date work performed: _____

(2) Person to contact: _____

Company Name: _____

Address: _____

Telephone: _____ Date work performed: _____

(3) Person to contact: _____

Company Name: _____

Address: _____

Telephone: _____ Date work performed: _____

(4) Person to contact: _____

Company Name: _____

Address: _____

Telephone: _____ Date work performed: _____

CONTRACTOR'S STATEMENT OF SUBCONTRACTORS TO BE USED FOR THIS WORK

NAME OF CONTRACTOR: _____

BUSINESS ADDRESS: _____

LIST SUBCONTRACTORS TO BE USED IN THE PROJECT:

(1) Company Name: _____

Address: _____

Telephone: _____ Phase of Work Sublet:_____

(2) Company Name: _____

Address: _____

Telephone: _____ Phase of Work Sublet:_____

(3) Company Name: _____

Address: _____

Telephone: _____ Phase of Work Sublet:_____

(4) Company Name: _____

Address: _____

Telephone: _____ Phase of Work Sublet:_____

DRUG FREE WORKPLACE CERTIFICATION

If identical tie bids exist, preference will be given to the vendor who submits a certification with their bid/proposal certifying they have a drug-free workplace in accordance with Section 287.087, Florida Statutes. The drug-free workplace preference is applied as follows:

IDENTICAL TIE BIDS: Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids, which are equal with respect to price, quality, and service, are received by the State of by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program.

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

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

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

3) This firm gives each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4) In the statement specified in subsection (1), this firm notifies the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

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

6) This firm will continue to make a good faith effort to maintain a drug-free workplace through implementation of this section.

_____

Contractor's Name Signature

NON-COLLUSIVE AFFIDAVIT

State of _____

County of _____ } SS.

_____ being first duly sworn, deposes and says that:

1. He/she is the _____, (Owner, Partner, Officer, Representative or Agent) of _____ the Offeror that has submitted the attached Proposal;
2. He/she is fully informed respecting the preparation and contents of the attached Proposal and of all pertinent circumstances respecting such Proposal;
3. Such Proposal is genuine and is not a collusive or sham Proposal;
4. Neither the said Offeror nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Offeror, firm, or person to submit a collusive or sham Proposal in connection with the Work for which the attached Proposal has been submitted; or have in any manner, directly or indirectly sought by agreement or collusion, or have in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any Offeror, firm, or person to fix the price or prices in the attached Proposal or of any other Offeror, or to fix any overhead, profit, or cost elements of the Proposal price or the Proposal price of any other Offeror, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposal Work.

Signed, sealed and delivered
in the presence of:

_____ By:_____

_____ _____
(Printed Name)

_____
(Title)

ACKNOWLEDGEMENT

State of _____

County of _____

On this _____ day of _____, 2014, before me, the undersigned Notary Public of the State of _____, personally appeared _____ and (Name(s) of Individual(s) who appeared before notary) whose name(s) in/are Subscribed to the written instrument, and he/she/they acknowledge that he/she/they executed it.

_____
NOTARY PUBLIC, STATE OF _____

NOTARY PUBLIC
SEAL OF OFFICE:

_____
(Name of Notary Public: Print, stamp, or type as commissioned)

☐Personally known to me, or ☐Produced Identification: _____ ☐ **DID** take an oath, or ☐**DID NOT** take an oath

PUBLIC ENTITY CRIME INFORMATION

A person or affiliate who has been placed on the State of Florida's convicted vendor list following a conviction for a public entity crime may not submit a BID/ITB proposal on a contract to provide any goods or services to a public entity, may not submit a response on a contract with a public entity for services in 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, Sub-Contractor, or Contractor 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 2876.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list**.

I, _____, being an authorized representative of the firm of _____, located at City: _____ State: _____ Zip: _____, have read and understand the contents of the Public Entity Crime Information and of this formal BID/ITB package, hereby submit our proposal accordingly.

Signature: _____ Date: _____

Phone: _____ Fax: _____

Federal ID#: _____

BID SUBMITTAL FORM
BID ITEMS: WATER MAIN REPLACEMENT PROGRAM - PHASE 2

NO BID RESPONSE

IMPORTANT: If you choose not to submit a bid for the attached "Invitation To Bid," please complete and return this form only on/before bid closing date. Failure to respond will result in your company being negatively registered as non-responsive. In the event five (5) "no responses" are posted, you will be automatically dropped from out mailing list for future solicitations for the described product/service.

Thank you for taking this opportunity to help us update and improve the solicitation process.

Bid Open/Close Date: **May 28, 2014 at 2:00 PM**

Bid Number: **2986-14**

Description: **Water Main Replacement, Phase 2**

Contact: P, Procurement- Finance Department

Please check the appropriate response. We respectfully submit "No bid" for the following reason(s):

- ☐ 1. We are unable to meet the required delivery date
- ☐ 2. We cannot provide a product to meet the required specifications.
- ☐ 3. We no longer provide the requested product.
- ☐ 4. We do not represent the required brand name product.
- ☐ 5. The bid closing date does not allow adequate time to prepare a response.
- ☐ 6. The specifications are too restrictive.
- ☐ 7. We have chosen not to do business with the City
- ☐ 8. Other (feel free to provide our response on your company letterhead.)

Company Name _____ Vendor No._____

Authorized Signature_____

Print Name _____

Title _____

Date _____ Telephone No. _____

THIS PAGE MUST BE COMPLETED & SUBMITTED WITH OFFER

BID SUBMITTAL FORM
BID ITEMS: WATER MAIN REPLACEMENT PROGRAM - PHASE 2

Item No.	Estimated Quantity	Unit	Description	Unit Bid Price (In Numbers)	Total Amount (In Numbers)
1	900	LF	6" Water Main Installed by HDD Method		
2	1,500	LF	8" Water Main Installed by HDD Method		
3	450	LF	4" Water Main Installed by Open Cut Method		
4	1,500	LF	6" Water Main Installed by Open Cut Method		
5	300	LF	8" Water Main Installed by Open Cut Method		
6	1	EA	4" Resilient Wedge Gate Valves with Box		
7	4	EA	6" Resilient Wedge Gate Valves with Box		
8	4	EA	8" Resilient Wedge Gate Valves with Box		
9	1	EA	8" Tapping Sleeves and Valves		
10	2	EA	12" Tapping Sleeve and Valves		
11	2	EA	Fire Hydrant Assemblies		
12	310	LF	2" Fire Service with Valves		
13	45	EA	Water Services with New Meter Box (Near Side Single)		
14	17	EA	Water Services with New Meter Box (Near Side Tandem)		
15	39	EA	Water Services with New Meter Box (Far Side Single)		
16	20	EA	Water Services with New Meter Box (Far Side Tandem)		
17	6	EA	Water Services without New Meter Box (Near Side Single)		
18	0	EA	Water Services without New Meter Box (Near Side Tandem)		
19	5	EA	Water Services without New Meter Box (Far Side Single)		
20	3	EA	Water Services without New Meter Box (Far Side Tandem)		
21	60	EA	New Dual Check Valve Assemblies		
22	121	EA	New Water Service Conenctions from Meter Assemblies to Existing Buildings		
23	1	LS	Abandonment of Existing Water Mains		
24	2,200	SY	Milling & Asphalt Restoration		

THIS PAGE MUST BE COMPLETED & SUBMITTED WITH OFFER

BID SUBMITTAL FORM
BID ITEMS: WATER MAIN REPLACEMENT PROGRAM - PHASE 2

			BASE BID SUBTOTAL		
24	1	LS	Maintenance of Traffic and Traffic Control		
25	1	LS	General Conditions (Max 5% of Base Bid Subtotal)		
26	1	LS	Mobilization and Demobilization		
27	1	LS	Owner's Allowance	$ 100,000	$ 100,000
28	1	LS	Permit Fee Allowance	$ 10,000	$ 10,000
			BASE BID TOTAL		

TOTAL BID PRICE written in words:
Name and address of bidding firm:
Signature and title of authorized individual signing bid

Bid Alternative No. 1 (Required)

Bid Alternative No. 1 includes installation of HDPE pipe for the horizontal directional drill pipe sections in lieu of the base bid fusible PVC.
HDPE pipe hall have an inside diameter equal to or greater than the specified PVC pipe size.

Bid Alternative No. 1 ADD/DEDUCT (circle one)

_____

Acknowledgement of Addenda Issued

#1 _____ #2 _____ #3 _____ #4 _____ #5 _____

THIS PAGE MUST BE COMPLETED & SUBMITTED WITH OFFER

SAMPLE CONTRACT

THIS CONTRACT, pursuant to City Council approval granted on _____, is made and entered into this_____ day of _____, 2014, by and between the CITY OF VENICE, FLORIDA, hereinafter referred to as the City, and _____, hereinafter referred to as the Contractor.

W I T N E S S E T H:

THAT FOR and in consideration of the mutual covenants and obligations hereafter set forth, the parties hereto agree as follows:

(1) The contract documents consist of this Contract, standard general conditions, supplemental conditions, special conditions, technical specifications, drawings, Contractor's bid proposal for ITB 2986-14, payment and performance bonds, all of which are hereby made a part of this Contract.

(2) The Contractor shall perform all the work required by the contract documents for the following project; and shall include installation of the listed items, per bid specifications:

City Bid # **ITB# 2986-14: Water Main Replacement, Phase 2**

(3) The work to be performed under this contract shall be completed within **two hundred seventy (270)** days of the issuance of the Notice to Proceed by the City.

(4) The City shall pay the Contractor for the performance of the work, subject to the terms and conditions of the contract documents and any written change orders, the contract sum of: _____ **Dollars & 00/100.**

(5) Time is of the essence in this contract. In the event that the work is not completed within the required time, then from the compensation otherwise to be paid to the Contractor, the City may retain the sum of **one thousand five hundred thirty-two dollars ($1,532.00) per day** for each calendar day that the work remains uncompleted beyond the time limit, which sum shall represent the actual damage which the City will have sustained per day by failure of the Contractor to complete the work within the required time, said sum not being a penalty but being the stipulated damages the City will have sustained in the event of such default by the Contractor.

(6) In connection with the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, sex, religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post hereafter in conspicuous places, available for employees or applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the non-discrimination clause. The Contractor further agrees to insert the foregoing provisions in all contracts hereunder, including contracts or agreements with labor unions and/or workers' representatives, except subcontracts for standard commercial supplies or raw materials.

(7) Pursuant to applicable Florida law, Contractor's records associated with this

Contract may be subject to Florida's public record laws, Florida Statutes 119.01, *et seq*, as amended from time to time. Contractor shall comply with all public records obligations set forth in such laws, including those obligations to keep, maintain, provide access to, and maintain any applicable exemptions to public records, and transfer all such public records to the City at the conclusion of this Contract, as provided for in Section 119.0701, Florida Statutes.

(8) Termination. This Contract may be terminated by the City if Contractor is in breach of any term or provision of this Contract or any of the contract documents, or at any time such termination is in the best interest of the City. This Contract may be terminated by the Contractor only by mutual consent of both parties. If this Contract is terminated before performance is completed, the Contractor shall be paid only for that work satisfactorily performed for which costs can be substantiated.

(9) This Contract and the contract documents constitute the entire agreement of the parties and may not be changed or modified, except by a written document signed by both parties hereto. This Contract shall be binding upon the successors and assigns of the parties.

IN WITNESS WHEREOF, the parties to the agreement have hereunto set their hands and seals and have executed this agreement, the day and year first above written.

(SEAL)

ATTEST:	CITY OF VENICE IN SARASOTA COUNTY, FLORIDA
_____ CITY CLERK	BY:_____
ATTEST:	CONTRACTOR
_____	BY:_____
_____ Signed by (typed or printed)	_____ Signed by (typed or printed)

Approved as to Form and Correctness

_____
David Persson, City Attorney

SURETY BONDS

At the time of executing the contract documents, the successful proposer shall append to this sheet separate performance and payment bonds each equal to one-hundred percent (100%) of the contract amount. Said bonds become an integral part of these contract documents and shall meet the following requirements:

1. Surety bonds submitted shall be written by a surety company that is approved by the City Finance Director and authorized to do business in the State of Florida, shall be accompanied by evidence of the authority of the issuing agent, and shall be on a form to be approved by the City Attorney. No bond in an amount greater than $5,000 required by the City Charter, the Ordinances of The City of Venice, or the laws of the State of Florida shall be approved by the City Finance Director unless the surety company executing the bond is listed by the United States Treasury Department as being approved for writing bonds for Federal projects and its current list in an amount not less than the amount of the bond tendered to The City of Venice.

2. Both the separate payment and performance bonds shall be in the general form of AIA documents A311. Additionally, the payment bond shall state as follows:
"This bond is issued in compliance with Section 255.05, Florida Statutes (1994 Supp.), as may be amended. A claimant, except a laborer, who is not in privity with the contractor and who has not received payment for his labor, materials, or supplies shall, within 45 days after beginning to furnish labor, materials, or supplies for the prosecution of the work, furnish the contractor with a notice, that he intends to look to the bond for protection. A claimant who is not in privity with the contractor and who has not received payment for his labor, materials, or supplies shall, within 90 days after performance of the labor or after complete delivery of the materials or supplies, or with respect to rental equipment, within 90 days after the date that the rental equipment was last on the job site available for use, deliver to the contractor and to the surety written notice of the performance of the labor or delivery of the materials or supplies and of the nonpayment. No action for the labor, materials, or supplies may be instituted against the contractor or the surety unless both notices have been given. No action shall be instituted against the contractor or the surety on the payment bond or the payment provisions of a combined payment and performance bond after 1 year from the performance of the labor or completion of delivery of the materials or supplies. A claimant may not waive in advance his right to bring an action under the bond against the surety. In any action brought to enforce a claim against a payment bond under this section, the prevailing party is entitled to recover a reasonable fee for the services of his attorney for trial and appeal or for arbitration, in an amount to be determined by the court, which fee must be taxed as part of his costs, as allowed in equitable actions."

GIVE THIS INFORMATION TO YOUR SURETY TO AID IN PREPARATION OF BONDS

PUBLIC WORKS PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT_____, a _____ Corporation, as Principal, hereinafter called Contractor; and _____, a corporation of the State of_____, a surety, hereinafter called Surety, are held and firmly bound unto the City of Venice as Obligee, hereinafter called the City in the amount of: _____Dollars ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated the _____day of _____, 2014, entered into a Contract with the City for the following described project:

ITB# 2985-14: Eastside WRF Reclaimed Water Filtration Project

which contract is incorporated by reference herein and made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payments to all persons supplying Contractor labor, materials and supplies, used directly or indirectly by the Said Contractor or Subcontractors in the prosecution of the work provided for in said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in anyway affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

PROVIDED FURTHER, that this bond is issued pursuant to Section 255.05, Florida Statutes, and reference is hereby made to the notice and time limitations in said statute for making claims against this bond.

PROVIDED FURTHER, that any suit under this bond must be instituted before the expiration of one (1) year from the performance of the labor or completion of delivery of the materials or supplies.

PROVIDED FURTHER, no right of action shall accrue on this bond to or for the use of any person or corporation other than the City named herein and those persons or corporations provided for the Section 255.05, Florida Statutes, their heirs, executors, administrators, successors or assigns.

Signed and sealed this _____day of _____, A.D., 2014.

CONTRACTOR

By:_____

IN THE PRESENCE OF:

_____ INSURANCE COMPANY

By:_____
Agent and Attorney-in-Fact

PUBLIC WORKS PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT, _____,_____as Principal, hereinafter called Contractor; and _____, a corporation of the State of_____ as surety, hereinafter called Surety, are held and firmly bound unto the City of Venice as Obligee, hereinafter called the City, in the amount of_____Dollars ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated the _____day of _____, 2014, entered into a Contract with the City for the following described project:

ITB# 2985-14: Eastside WRF Reclaimed Water Filtration Project

which contract is by reference incorporated herein and made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly and faithfully perform Contract during the original term thereof and any extensions thereof which may be granted by the City with or without notice to the Surety and during any guarantee or warranty period, including the obligation to correct any latent defects not discovered until after acceptance of the project by the City, and if he shall satisfy all claims and demands incurred under said Contract and shall fully indemnify and save harmless the City, its agents, Engineer and employees from all losses, damages, expenses, costs and Attorney's Fees, including appellate proceedings which it may suffer by reason of failure to do so, and shall reimburse and repay the City all outlay and expense which the City may incur in making good any default, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED FURTHER, whenever Contractor shall be, and declared by the City to be in default under the Contract, the City having performed its obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

(1) Complete the Contract in accordance with its terms and conditions; or

(2) Obtain a bid or bids for submission to the City for completing the Contract in accordance with its terms and conditions and upon determination by the City and Surety of the lowest responsible bidder, arrange for a contract between such bidder and City and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by the City to Contractor under the Contract and any amendments thereto, less the amount properly paid by the City to the Contractor.

PROVIDED FURTHER, the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the

work to be performed thereunder or the contract documents accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Contract documents.

PROVIDED FURTHER, any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due; except that, when the action involves a latent defect, suit must instituted within four (4) years from the time the defect is discovered or should have been discovered with the exercise of due diligence.

PROVIDED FURTHER, no right of action shall accrue on this bond to or for the use of any person or corporation other than the City, its successors or assigns.

Signed and sealed this_____day of_____, A.D., 2014.

IN THE PRESENCE OF: CONTRACTOR

_____ By:_____

INSURANCE COMPANY

By:_____
Agent and Attorney-in-Fact

CONTRACTOR'S RELEASE OF LIEN

BEFORE ME, the undersigned authority in said County and State, appeared _____, who being first duly sworn, deposes and says that he is _____ of _____ a company and/or corporation authorized to do business under the laws of Florida, which is the contractor on Project known as City of Venice Bid # **2985-14**, located in the City of Venice, County of Sarasota, Florida, under contract with the City of Venice, dated the _____ day of_____, 2013, that the said deponent is duly authorized to make this affidavit by resolution of the Board of Directors of said company and/or corporation; that deponent knows of his own knowledge that said contract has been complied with in every particular by said contractor and that all parts of the work have been approved by the City Engineer; that there are no bills remaining unpaid for labor, material or otherwise, in connection with said contract and work, and that there are no suits pending against the undersigned as contractor or anyone in connection with the work done and materials furnished or otherwise, under said contract.

DEPONENT further says that the final estimate which has been submitted to the City simultaneously with the making of this affidavit, constitutes all claims and demands against the City on account of said contract or otherwise, and that acceptance of the sum specified in said final estimate will operate as a full and final release and discharge of the City from any further claims, demands or compensation by contractor under the above contract.

DEPONENT further agrees that all guarantees under this contract shall start and be in full force from the date of this release as spelled out in the contract documents.

Signature:_____

Printed Name:

STATE OF FLORIDA)
COUNTY OF)

Signed before me this _____ day of _____, 2014,
by_____ who is personally known to me or has produced
_____ as identification.
_____

Notary Public
My Commission Expires:
Commission Number:

WE, the _____, having heretofore executed a performance bond and a payment bond for the above named contractor covering project and section as described above in the sum of
($_____)_____
Dollars, hereby agree that the Owner may make full payment of the final estimate, including the retained percentage, to said contractor.

IT IS fully understood that the granting of the right to make the payment of the final estimate to said contractor and/or his assigns, shall in no way relieve this surety company of its obligations under its bonds, as set forth in the specifications, contract, and bonds pertaining to the above project.

IN WITNESS WHEREOF, the _____has
caused this instrument to be executed on its behalf by
its_____,
and/or its duly authorized attorney in fact, and its corporate seal to be hereunto affixed,
all on this _____ day of _____, A.D., 2014.

_____
Surety Company

_____
Attorney in Fact

Power of Attorney must be attached if executed by Attorney in Fact.

STATE OF)
COUNTY OF)
BEFORE ME, the undersigned authority, appeared_____,
who is personally known to me or has produced
_____ as
identification, and who executed the foregoing instrument in the name of
_____
_____ as its _____ and the said
_____
acknowledged that he executed said instrument in the name of
_____
as its _____ and/or_____, for the purpose therein
expressed and that he had due and legal authority to execute the same on behalf of said
_____, a corporation.
IN WITNESS WHEREOF, I have hereunto set my hand and official seal at
_____ this _____ day of _____, 2014.

_____
Notary Public

My Commission Expires:

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT NO.
PROJECT:
CONTRACTOR CONTRACT DATE

CONTRACT FOR

Project or Specified Part Shall Include:
DEFINITION OF SUBSTANTIAL COMPLETION
The date of substantial completion of a project or specified part of a project is the date when the work is sufficiently completed, in accordance with the Contract Documents, so that the project or specified part of the project can be utilized for the purpose for which it was intended.

TO: (Contractor)
DATE OF SUBSTANTIAL COMPLETION:
_____

The work performed under this contract has been inspected by authorized representatives of the City of Venice and the contractor, and the project or specified part of the project, is hereby declared to be substantially completed on the above date.

A tentative list of items to be completed or corrected is appended hereto. This list may not be exhaustive, and the failure to include an item on it does not alter the responsibility of the contractor to complete all the work in accordance with the contract documents. These items shall be completed by the contractor within _____ days of Substantial Completion.

The date of Substantial Completion is the date upon which all guarantees and warranties begin, except as noted below. The responsibilities between the Owner and the Contractor for maintenance shall be as set forth below.

CITY OF VENICE
_____
By:
Date: _____

The contractor accepts the foregoing Certification of Substantial Completion and agrees to complete and correct the items on the tentative list within the time indicated.
_____ _____
Contractor Authorized Representative
Date: _____
RESPONSIBILITIES:
OWNER:
CONTRACTOR:
EXCEPTIONS AS TO GUARANTEES AND WARRANTIES:
ATTACHMENTS (Identify)

Technical Specifications

WATER MAIN REPLACEMENT PROGRAM – PHASE 2

City of Venice

April 2014

8010 Woodland Center Blvd
Suite 1200
Tampa, FL 33614

PROFESSIONAL CERTIFICATIONS PAGE

City of Venice, Florida

WATER MAIN REPLACEMENT PROGRAM
PHASE 2

This Technical Manual is certified as follows:

Civil Engineer

Divisions 1-15

Wade Trim, Inc.
8010 Woodland Center Boulevard
Suite 1200
Tampa, Florida 33614
Ph. 813-882-4373
Certificate of Authorization No. 3952

Holly P. Kremers, P.E., No. 68130

Date

City of Venice, Florida
Rear Lot Water Main Relocation Program
Phase 2

Bid Documents
Technical Specifications
Table of Contents

Section Number	Title	Page Numbers
DIVISION I - GENERAL REQUIREMENTS		
01001	Index of Plans	01001-1
01010	Summary of Work	01010-1 thru 01010-4
01025	Measurement and Payment	01025-1 thru 01025-10
01030	Special Project Procedures	01030-1 thru 01030-10
01050	Field Engineering	01050-1 thru 01050-3
01060	Regulatory Requirements and Permits	01060-1
01061	SWPPP and NPDES Requirements	01061-1 thru 01061-6
01090	Definitions and Standards	01090-1 thru 01090-6
01120	Demo and Alteration Project Procedures	01120-1 thru 01120-3
01200	Project Meetings	01200-1 thru 01200-3
01300	Submittals	01300-1 thru 01300-4
01311	Construction Schedule and Reports	01311-1 thru 01311-4
01330	Construction Staking	01330-1
01380	Construction Photographs	01380-1 thru 01380-3
01400	Quality Control Services	01400-1 thru 01400-4
01500	Construction Facilities and Temporary Control	01500-1 thru 01500-4
01540	Hurricane Preparedness	01540-1
01568	Temporary Soil Erosion and Sedimentation Control	01568-1 thru 01568-3
01600	Material and Equipment	01600-1 thru 01600-2
01700	Contract Closeout	01700-1 thru 01700-2
01710	Cleaning	01710-1 thru 01710-2
DIVISION 2 - SITE WORK		
02100	Clearing and Grubbing	02110-1 thru 02110-2
02140	Dewatering During Construction	02140-1 thru 02140-4
02200	General Earthwork	02200-1 thru 02200-9
02215	Site Grading	02215-1 thru 02215-2
02223	Structural Excavation and Backfill	02223-1 thru 02223-5
02226	Trenching, Backfilling and Compaction	02226-1 thru 02226-4
02240	Sodding	02240-1 thru 02240-6
02270	Erosion and Sedimentation Control	02270-1 thru 02270-2
02280	Curbs, Sidewalk, and Driveways	02280-1 thru 02280-9
02305	Horizontal Directional Drilling with HDPE Pipe	02305-1 thru 02305-5
02600	Fusible PVC for Installation by Horizontal Directional Drill	02600-1 thru 02600-14
02660	Water Main	02660-1 thru 02660-15

Section Number	Title	Page Numbers
DIVISION 3 – CONCRETE		
03600	Grout and Mortar	03600-1 thru 03600-5
DIVISION 10 – SPECIALTIES		
10100	Project Sign	10100-1 thru 10100-2
DIVISION 15 - MECHANICAL		
15263	High-Density Polyethylene (HDPE) Pipe	15263-1 thru 15263-5

SECTION 01001
INDEX OF PLANS

PART 1 – GENERAL

The 90% Plans bearing the general title of Water Main Replacement Program – Phase 2 and dated April 14, 2014, are included with, and form a part of, the Contract Documents for this Project.

SHEET NO.	DESCRIPTION
G0.00	COVER SHEET
G1.00	LEGEND, ABBREVIATIONS AND CITY STANDARD NOTES
G1.01	GENERAL NOTES
G1.02	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
C1.00	KEY PLAN
C1.01	NORTH – EXISTING WATERMAIN ABANDONMENT SITE PLAN
C1.02	SOUTH – EXISTING WATERMAIN ABANDONMENT SITE PLAN
~~C1.03~~	~~HIGEL DRIVE~~
~~C1.04~~	~~HIGEL DRIVE~~
C1.05	ORMOND STREET
C1.06	ORMOND STREET, APALACHICOLA ROAD, AND CADIZ ROAD
C1.07	MATANZAS STREET AND CADIZ ROAD
C1.08	MADRID AVENUE
C1.09	BARCELONA AVENUE
C1.10	BARCELONA AVENUE AND MADRID AVENUE
C1.11	BARCELONA AVENUE
C1.12	WEST VENICE AVENUE
C1.13	WEST VENICE AVENUE
C1.14	WEST VENICE AVENUE
C1.15	THE ESPLANADE SOUTH AND GRANADA AVENUE
C1.16	GRANADA AVENUE
C1.17	GRANADA AVENUE
C1.18	THE ESPLANADE SOUTH AND OCALA STREET
C1.19	THE ESPLANADE SOUTH AND CASTILE STREET
C1.20	ALHAMBRA ROAD
C1.21	MENENDEZ STREET AND ARMADA ROAD SOUTH
C1.22	VALENCIA ROAD
C1.23	HUNTER DRIVE AND GULF MANOR DRIVE
C1.24	ALHAMBRA ROAD GULF MANOR DRIVE
D1.00	EROSION AND SEDIMENTATION CONTROL DETAILS
D1.01	CITY OF VENICE POTABLE WATER DETAILS
D1.02	CITY OF VENICE POTABLE WATER DETAILS
D1.03	CITY OF VENICE POTABLE WATER DETAILS
D1.04	MAINTENANCE OF TRAFFIC

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01010
SUMMARY OF WORK

PART I – GENERAL

1.01 REQUIREMENTS INCLUDED

The work to be performed under this Contract shall consist of furnishing all tools, equipment, materials, supplies, and furnishing all transportation and services, including fuel, power, water, and essential communications, and performance of all labor, work or other operations required for the fulfillment of the Contract in strict accordance with the specifications, schedules, drawings, and other Contract Documents as herein defined, all which are made a part hereof, and including such detail sketches as may be furnished by the DESIGN PROFESSIONAL from time to time during construction in clarification of said Contract Documents. The work shall be completed and all work, materials, and services not expressly shown or called for in Contract Documents which may be necessary for the complete and proper construction of the work in good faith shall be performed, furnished, and installed by the CONTRACTOR as though originally so specified or shown, at no increase in cost to the OWNER.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

The Water Main Replacement Program – Phase 2 project includes the following, with necessary materials, equipment, labor, etc., for construction and abandonment as shown on the drawings.

1. A new water main on Ormond Street with service connections to properties on both sides of the Street.
2. A new water main on Apalachicola Road between Madrid Avenue and Matanzas Street, with service connections on both sides of the Road.
3. A new water main on Cadiz Road between Madrid Avenue and Matanzas Street, with service connections to properties on both sides of the Road.
4. A new water main on Madrid Avenue between Narvaezi Street and Barcelona Avenue, with service connections to properties on both sides of the Avenue.
5. A new 8-inch water main on Barcelona Avenue between Park Boulevard and Avenue Des Parques, with service connections to properties on the south side of the Avenue.
6. A new water main on The Esplanade South between Granada Avenue and Ocala Street, with service connections to properties on the east side of the Street.
7. A new water main on Ocala Street between The Esplanade South and the existing rear lot water main, with service connections to properties on the north side of the road.
8. New service connections from the existing water main to properties on Madrid Avenue between The Esplanade North and Barcelona Narvaezi Street, as shown on the plans.
9. New service connections from the existing water main to properties on Barcelona Avenue between Cadiz Road and Madrid Avenue, as shown on the plans.
10. New service connections from the existing water main to properties on West Venice Avenue between The Esplanade South and Avenue Des Parques, as shown on the plans.
11. New service connections from the existing water main to properties on Granada Avenue between Armada Road and Park Boulevard, as shown on the plans.
12. New service connections from the existing water main to properties on Castile Street between The Esplanade South and Valencia Road, as shown on the plans.
13. New service connections from the existing water main to properties on Alhambra Road between The Esplanade South and Park Boulevard, as shown on the plans.
14. New service connections from the existing water main to properties on Gulf Manor Drive between Hunter Drive and Park Boulevard, as shown on the plans.
15. Abandonments of existing water mains within the project area as shown on the plans.

1.03 CONTRACT METHOD

The work hereunder will be constructed under a UNIT PRICE contract, itemized as set forth in the Bid Schedule and defined in Section 01025 - Measurement and Payment.

The CONTRACTOR shall include the General Conditions and Supplemental Conditions of the Contract as part of all Subcontract Agreements.

1.04 JURISDICTION

Agencies having jurisdiction over construction of this project include but are not limited to:

- Florida Department of Health
- City of Venice
- Sarasota County

The CONTRACTOR shall secure any permits associated with construction as required by the agency(s) having jurisdiction, shall abide by all rules and regulations of each and shall pay all costs in connection with the permits. The CONTRACTOR shall pay for such permits and inspection fees to ensure compliance with their requirements.

1.05 NOTICES TO PROPERTY OWNERS, AUTHORITIES, AND DESIGN PROFESSIONALS

A. The CONTRACTOR shall, as provided in General Conditions, notify property owners of adjacent properties and utilities when performance of the WORK may affect them.

B. When it is necessary to temporarily deny access to property owners or tenants to their property, or when any utility service connection must be interrupted, the CONTRACTOR shall give notices sufficiently in advance to enable the affected persons to provide for their needs. Notices shall conform to any applicable local ordinance and will be delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit their inconvenience.

C. The CONTRACTOR shall contact the property owner, Fire Department, Police Department, Emergency Medical Services, U.S. Postal Department, and OWNER'S REPRESENTATIVE, at least 48 hours prior to closing any street.

D. Utilities and other concerned agencies shall be contacted at least 48 hours prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.

E. The CONTRACTOR shall review with the various utility companies the construction methods and work to be done in the vicinity of utilities. When temporary relocation is necessary sufficient advance notice shall be given by the CONTRACTOR to the utility involved.

1.06 COORDINATION

It shall be responsibility of the CONTRACTOR to coordinate his operations and those of his subcontractors in such a manner so as to avoid interference or delays and ensure the orderly progress of Work in the areas of common or interdependent construction activities. The limits of the Contract are indicated on the Plans and specified herein. However, these limits may be altered by mutual agreement of the CONTRACTOR with the OWNER, with the written Agreement of the OWNER'S REPRESENTATIVE, in order to facilitate the work operations.

The work of this Contract may involve coordination with other utility companies or agencies, either

performing connection repair or maintenance service on their own facilities. The CONTRACTOR shall coordinate and cooperate with all utility companies and other contractors working in the same area that this Contract entails. This shall include, but not be limited to, the telephone company; the electric power company; the cable television company; the gas company; the highway contractor; all subcontractors; and any other contractors who are performing work within the area of this Contract.

This effort to coordinate and cooperate with all utility companies and other CONTRACTORS shall be toward, but not be limited to, maintaining public access to the various cross streets, residences, commercial establishments, and other institutions within the limits of construction and adjoining streets, and maintaining the area's electric, telephone, cable television, gas, water, and sewer services.

1.07 REFERENCE STANDARDS

Reference to the standards of any technical society, organization, or association or to codes of local or state authorities shall mean the latest effective standard, code, specification, or standard adopted and published at the date of receipt of bids, unless specifically stated otherwise.

1.08 AVAILABILITY OF LAND

Work is generally located within the right-of-way of the OWNER, and extends onto private property for service connections. In areas where work will extend beyond right-of-ways or the property lines, the OWNER will secure a use agreement and/or construction easement to facilitate the work.

Nothing in this Contract shall imply that the CONTRACTOR has exclusive use of roadways or public and/or private land employed to perform the work.

1.09 CONTRACTOR'S USE OF PREMISES

The CONTRACTOR shall maintain his construction operations within the property limits and areas designated by the OWNER. In the event that the CONTRACTOR deems it necessary or advisable to operate beyond the limits as provided by the OWNER, he shall be responsible for coordinating such efforts with the OWNER.

1.10 SALVAGE OF MATERIAL AND EQUIPMENT

No items shall be salvaged and reused without permission from the OWNER or the OWNER'S REPRESENTATIVE unless specifically stated otherwise in the bid form.

The OWNER reserves the right of first refusal to salvage any item. If so directed by the OWNER'S REPRESENTATIVE, the CONTRACTOR shall deliver to a location any items to be salvaged by the OWNER.

1.11 STORAGE OF MATERIALS

Storage conditions shall be acceptable to the OWNER for all materials and equipment not incorporated into the Work but included in applications for payment. Such storage arrangements and conditions shall be presented in writing and shall afford adequate and satisfactory security and protection. Off-site storage facilities shall be accessible to the OWNER'S REPRESENTATIVE. The stored materials shall be insured for full value. Certificates of Insurance coverage must be submitted to the OWNER or OWNER'S REPRESENTATIVE with the request for payment by the CONTRACTOR. All arrangements and costs for storage facilities shall be paid by the CONTRACTOR, unless specifically designated in the Contract Documents to be furnished by the OWNER.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART I – GENERAL

1.01 GENERAL INFORMATION

The Contractor shall receive and accept the compensation provided in the Proposal and the Agreement as full payment for furnishing certain materials and all labor, tools and equipment, for performing all operations necessary to complete the work under the Agreement, and also in full payment for all loss or damages arising from the nature of the work, or from any discrepancy between the actual quantities of work and quantities herein estimated by the Engineer, or from the action of the elements or from any unforeseen difficulties which may be encountered during the prosecution of the work until the final acceptance by the City.

It is the intent of these contract documents that any cost for which compensation is not directly provided by a bid item shall be prorated and included in the bid item(s) for which they are required. Failure of the Contractor to follow this procedure shall be basis for rejection of this bid.

The prices stated in the Proposal include all costs and expenses for taxes, labor, equipment, commissions, transportation charges and expenses, patent fees and royalties, together with any and all other costs and expenses for performing and completing the work as shown on the plans and specified herein. The basis of payment for any item at the unit price shown in the Proposal shall be in accordance with the description of that item in this Section.

All work shall be in accordance with the Technical Specifications.

Unless specifically listed as a Bid Item, no separate payment will be made for the following items and the cost of such work shall be included in the applicable contract pay items of work.

1. Clearing and grubbing;
2. Excavation, including necessary pavement/slab removal;
3. Shoring and sheeting;
4. Dewatering and disposal of surplus water including well point dewatering as directed by Engineer;
5. Backfill;
6. Grading;
7. Replacement or restoration of paved or unpaved roadways, grass and shrubbery plots outside of established pay limits;
8. Replacement or restoration of curbing, gutter, sidewalk, and site restoration of any areas damaged during construction activities;
9. Temporary facilities and controls during construction such as water/sanitary facilities, traffic control and environmental protection, unless specifically provided for in a pay item;
10. Removing and disposing of waste material due to construction;
11. Cleanup;
12. Refill materials, except as hereinafter specified;
13. Testing and placing system in operation;
14. Any material or equipment required installed and/or used for the tests;
15. Maintaining the existing quality of service during construction;
16. Repair of sanitary sewer house laterals damaged during construction;
17. Repair and/or cleaning of storm sewers, inlets & catch basins damaged or filled with sediment during construction;
18. Color audio-video construction record;
19. Providing the services of an Independent Testing Laboratory for materials and compaction

testing.

20. Providing the services of a professional land surveyor, licensed in the State of Florida, to establish horizontal and vertical control, layout the work, and assist with the preparation of record drawings;
21. Cost to reproduce drawings, specifications, shop drawings, and reports for the Contractor's use and for submissions to the City;
22. Temporary fencing;
23. Dust Control;
24. Noise suppression measures;
25. Removing, relocating, resetting existing street signage to facilitate construction;
26. Removing, relocating, resetting mailboxes to facilitate construction;
27. Utility notification and location and exploratory pits; and
28. All other appurtenant work as required for a complete and operable system.

The Contractor's attention is again called to the fact that the quotations for the various items of work are intended to establish a total price for completing the work in its entirety. Should the Contractor feel that the cost for any item of work has not been established by the Proposal or Contract Pay Items, he shall include the cost for that work in some other applicable bid item, so that his proposal for the project does reflect his total price for completing the work in its entirety.

Following final payment by the City, the Contractor shall maintain the surface of the unpaved trenches, shrubbery, trees, fences, sod, and other surfaces disturbed for a period of six (6) months thereafter. The cost of maintaining the restored areas is considered incidental to the cost of restoring the areas disturbed by the Contractor. These costs shall be prorated and included in the cost for the bid item which it is required.

1.02 MEASUREMENT

The quantities for payment under this Agreement shall be determined by actual measurement of the completed items, in place, ready for service and accepted by the City, in accordance with the applicable method of measurement therefore contained herein. A representative of the Contractor shall witness all field measurement. Payment shall be made and shall be based on percent complete of the Lump Sum price according to the schedule of values.

1.03 PAYMENT

The Contractor will be paid monthly, by the City, for work performed the previous month. Each application for payment shall be submitted with a copy of record drawings, to date, as well as an updated schedule for the project. Payment shall be for the approved and accepted amount of work that the Contractor has accomplished in the previous month.

Payment shall be made and shall be based on percent complete for Lump Sum pay items and on a measured quantity, unit price basis for unit price pay items.

PART 2 – PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 Bid Items: Water Main Replacement Program – Phase 2

A. WATER MAIN INSTALLED BY HORIZONTAL DIRECTIONAL DRILL METHOD (Bid Items #1, #2)

The Contractor shall provide all labor, equipment and materials to furnish and install pipe by horizontal directional drill (HDD) method. The HDD installation of pipe shall include, but may

not be limited to:

1. Performing all evaluations and calculations necessary for the proper implementation of the HDD.
2. Preparing and implementing the HDD work plan, bentonite management and emergency spill plan;
3. Excavating the launch, recovery, intermediate mud and exploratory pits;
4. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding; containment, berming and disposal of drill fluid as required or as directed by the Engineers;
5. Maintaining the pits, which shall include dewatering, barricading, sheeting, shoring, containment, berming and disposal of drill fluid as required or as directed by the Engineer;
6. Furnishing and installing the pipe;
7. Horizontal directional drilling or pipe;
8. Furnishing and installing the locator wires on the pipe;
9. Joining the pipe as required;
10. Furnishing and installing MJ adapters as necessary to connect HDPE pipe to other pipe materials, fittings, and valves (for Bid Alternative No. 1);
11. Backfilling and compaction of pits;
12. Hydrostatic pressure testing and cleaning the pipe;
13. Cleaning up and restoring the job site which shall include removing excess materials and debris and re-grading the terrain;
14. Providing and environmental scientist for monitoring HDD activities per the Contract Documents and applicable permits;
15. Furnishing fittings, including polyethylene encasement for ductile iron fittings, and connecting piping to existing piping and/or structures; and
16. All other ancillary materials, equipment labor, water, and power required for the complete installation of the piping by HDD method.

All work shall be in accordance with the Technical Specifications.

Payment for installing pipe by the HDD method shall be based on the size and horizontal distance in linear feet of pipe measured along the top centerline of the installed and connected pipe, in place, complete and acceptable to the Engineer.

B. WATER MAIN INSTALLED BY OPEN CUT METHOD (Bid Item #3, #4, #5)

The Contractor shall provide all labor, equipment, and materials for installing pipe by the open cut method. The open cut installation of pipe shall include, but may not be limited to:

1. Exploratory pits;
2. Excavating and maintaining the trench, which shall include dewatering, sheeting, shoring and/or bracing where required or as directed by the Engineer;
3. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
4. Cleaning dirt and foreign material from within the pipe and bell;
5. Beveling field-cut joints and pipe shorts;
6. Installing City approved pipe and any pipe shorts as part of the pipeline;
7. Furnishing and installing locator wires on PVC pipe;
8. Furnishing and installing leak detector assemblies where called for on the drawings;

9. Furnish and install joint restrains complete with all tie rods and hardware;
10. Furnish and installing pipe;
11. Finishing and installing polyethylene encasement on ductile iron pipe;
12. Backfilling and compacting the trench including regarding the terrain;
13. Hydrostatic pressure testing, pigging, and cleaning the pipe;
14. Cleaning up and restoring the job site which shall include removing excess materials and debris and re-grading the terrain;
15. Driveway, sidewalk, asphalt and other restoration;
16. Disinfecting the potable or raw water main pipe;
17. Furnishing fittings, including polyethylene encasement for ductile iron fittings, and connecting piping to existing piping and/or structures;
18. Furnishing and installing any lateral pipe and making any connection needed; and
19. All other ancillary materials, equipment, labor, water and power required for the complete installation of the piping by open cut method.

All work shall be in accordance with the Technical Specifications.

Payment for installing pipe by the open cut method shall be based on the horizontal distance in linear feet of pipe measured along the top centerline of the pipe in place complete and acceptable to the Engineer.

C. RESILIENT WEDGE GATE VALVES WITH BOX (Bid Items #6, #7, #8)

The Contractor shall provide all labor, equipment and certain materials to completely furnish and install all resilient wedge gate valves. The resilient wedge gate valve installation shall include, but may not be limited to:

1. Excavating the trench/pit;
2. Maintaining the trench/pit which shall include dewatering and bracing and sheeting where required or as directed by the Engineer;
3. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
4. Furnishing and installing valves, valve boxes, and tapping sleeves;
5. Furnishing and installing mechanical joint restraints;
6. Furnishing and installing valve extension rods where necessary;
7. Furnishing and installing brass valve identification tag;
8. Backfilling and compacting the trench/pit;
9. Furnishing paint and painting valve cover; and
10. All other ancillary materials, equipment, labor, and power required for the complete installation of resilient wedge gate valves.

All work shall be in accordance with the Technical Specifications and Plans.

Payment shall be made based on the size and for each resilient wedge gate valve installation complete, working, and operating to the satisfaction of the Engineer. Operating satisfactorily includes but is not limited to:

1. The valve box and valve is plumb and the valve box is centered on the valve.
2. City personnel can insert a valve key through the valve box and completely open and close the valve.

D. TAPPING SLEEVES AND VALVES (Bid Items #9 and #10)

The Contractor shall provide all labor, equipment and certain materials to completely install and test all tapping sleeves and valves. The tapping sleeve and valve installation shall include, but may not be limited to:

1. Excavating the trench/pit;
2. Maintaining the trench/pit which shall include dewatering and bracing and sheeting where required or as directed by the Engineer;
3. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
4. Furnishing and installing valves, valve boxes, adapter fittings and tapping sleeves;
5. Pressure testing the tapping sleeve;
6. Furnishing and installing mechanical joint restraints;
7. Furnishing and installing valve extension rods where necessary;
8. Furnishing and installing brass valve identification tag;
9. Backfilling and compacting the trench/pit;
10. Furnishing paint and painting valve cover; and
11. All other ancillary materials, equipment, labor, and power required for the complete installation of valves and appurtenances.

All work shall be in accordance with the Technical Specifications and Plans.

Payment shall be made based on the size and for each tapping sleeve and valve complete, working, and operating to the satisfaction of the Engineer. Operating satisfactorily includes but is not limited to:

1. The valve box and valve is plumb and the valve box is centered on the valve.
2. City personnel can insert a valve key through the valve box and completely open and close the valve.

E. FIRE HYDRANT ASSEMBLIES (Bid Item #11)

The Contractor shall provide all labor, equipment and certain materials to completely install fire hydrant assemblies. The fire hydrant assembly installation shall include, but may not be limited to:

1. Excavating the trench/pit;
2. Maintaining the trench/pit, which shall include dewatering and bracing and sheeting where required or as directed by the Engineer;
3. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
4. Furnishing and installing fire hydrant assemblies as shown on the detail drawings including the hydrant valve;
5. Backfilling and compacting the trench/pit; and
6. All other ancillary materials, equipment, labor, and power required for the complete installation of fire hydrant assemblies.
7. The main line tee shall not be included in this bid item.

All work shall be in accordance with the Technical Specifications and Plans. Payment for

the tee shall be made under the Ductile Iron Fittings pay item.

Payment shall be made for the number of each fire hydrant assembly installed and incorporated into the piping system complete, working, and operating to the satisfaction of the Engineer.

F. WATER SERVICES WITH NEW METER BOX (Bid Items #13, #14, #15, #16)

The Contractor shall provide all labor, equipment and materials to completely install water services and meter assemblies for each lot as shown on the plans. The water service and meter assembly installation shall include, but may not be limited to:

a. Excavating the trench/pit;
b. Maintaining the trench/pit, which shall include dewatering and bracing and sheeting where required or as directed by the Engineer;
c. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
d. Furnishing and installing the far-side PVC or HDPE casings;
e. Furnishing and installing carrier piping and service lateral;
f. Furnishing and installing new meter box(es) and accessories;
g. Installing the City-supplied water meter;
h. Connections to new or existing piping systems, including small diameter piping and fittings not included in other bid items;
i. Backfilling and compacting the trench/pit; and
j. All other ancillary materials, equipment, labor, and power required for the complete installation of water services and meter assemblies.

All work shall be in accordance with the Technical Specifications and Plans.

Payment shall be made for the number of each water service installed and incorporated into the piping system complete, working, and operating to the satisfaction of the Engineer.

G. WATER SERVICES WITHOUT NEW METER BOX (Bid Items #17, #18, #19, #20)

The Contractor shall provide all labor, equipment and materials to completely install water services to existing meter assemblies for each lot as shown on the plans. The water service installation shall include, but may not be limited to:

a. Excavating the trench/pit;
b. Maintaining the trench/pit, which shall include dewatering and bracing and sheeting where required or as directed by the Engineer;
c. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
d. Furnishing and installing the far-side PVC or HDPE casings;
e. Furnishing and installing carrier piping and service lateral;
f. Furnishing and installing the corporation stop;
g. Connecting to the existing water meter assemblies;
h. Backfilling and compacting the trench/pit; and
i. All other ancillary materials, equipment, labor, and power required for the complete installation of water services.

All work shall be in accordance with the Technical Specifications and Plans.

Payment shall be made for the number of each water service installed and incorporated into the piping system complete, working, and operating to the satisfaction of the Engineer.

H. NEW DUAL CHECK VALVE ASSEMBLIES (Bid Items #21)

The Contractor shall provide all labor, equipment and materials to remove existing dual check valve assemblies on water services to be relocated and return them to the property owner, and completely install new check valve assemblies at new meter. Properties that do not have an existing dual check valve assembly will not receive one as part of this project. The dual check valve installation shall include, but may not be limited to:

a. Removing the dual check valve from the existing service;
b. Installing and testing the dual check valve assembly;
c. Testing the RPZ assemblies, and;
d. Miscellaneous fittings, piping and accessories necessary for a complete installation.

I. NEW WATER SERVICE CONNECTIONS FROM METER ASSEMBLIES TO EXISTING BUILDINGS (Bid Item #22)

The Contractor's plumber shall provide all labor, equipment and certain materials to completely install new water services from the new meter assemblies to each existing building. The new water service shall include, but may not be limited to:

a. Coordinating with the property owner to determine the service route;
b. Excavation;
c. Maintaining the trench/pit, which shall include dewatering and bracing and sheeting where required or as directed by the Engineer;
d. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
e. Furnishing, installing, testing and connecting the new service line by either open cut or by horizontal directional drill;
f. Backfilling and compacting the trench/pit;
g. Restoration; and
h. All other ancillary materials, equipment, labor, and power required for the complete installation of water services and meter assemblies.

All work shall be in accordance with the Technical Specifications and Plans.

Payment shall be made for the number of each new service installed complete, working, and operating to the satisfaction of the Engineer.

J. ABANDONMENT OF EXISTING WATER MAINS (Bid Item #23)

The Contractor shall provide all labor, equipment and materials to abandon the existing water mains as shown on the drawings. The water main abandonment shall include, but may not be limited to:

a. Cutting the abandoned line and capping/plugging its connection to the remaining, in service water main;

b. Removal and disposal of all potable water in the abandoned line;
c. Furnishing, installing and maintaining all necessary erosion control measures including but not limited to artificial coverings, mowing, sandbagging, slope drains, sediment basins, hay bales, straw, floating silt barrier, staked silt barrier and seeding;
d. Materials, equipment, labor, and power required to furnish and install flowable fill on mains 3" or greater;
e. Capping/plugging the main;
f. Closing valves to be abandoned and removing the valve box;
g. Pipe clamps, rebar, concrete, equipment, labor, and power required to furnish and install the reverse dead man or thrust block;
h. Resisting the stub on the water main remaining in service; and
i. All other ancillary materials, equipment, labor, water, and power required for the complete abandonment of the line.

All work shall be in accordance with the Technical Specifications and Plans.

Payment shall be made and shall be based on percent complete of the Lump Sum price according to the schedule of values.

K. ASPHALT RESTORATION (Bid Item #24)

The Contractor shall provide all labor, equipment, and materials to restore asphalt roadway that was cut, removed or damaged during the course of the pipeline construction and milling and paving of full lane widths as shown on the drawings. The asphalt restoration shall include sawcutting, removing and replacing the entire asphalt layer to the milling limits shown on the drawings or:

a. Placing, grading, and compacting sub-base, base, and approved asphaltic pavement over excavated area as specified in the Contract Documents;
b. Returning 30-days later to mill the full lane width of all damaged lanes and designated intersection areas indicated in the Approved Construction Plans so as to provide a uniform longitudinal profile and cross-section;
c. Sweeping of the milled surface;
d. Disposal of all surplus existing materials resulting from milling operations;
e. Restoring, placing, grading, and compacting approved asphaltic pavement at the thickness specified in the Contract Documents.

Payment shall be made on a square yard basis, in place complete and acceptable to the Engineer.

L. MAINTENANCE OF TRAFFIC AND TRAFFIC CONTROL (Bid Item #24)

The bid price for Traffic Control shall be a lump sum amount. This bid item shall include preparation of a Maintenance of Traffic plan consistent with the Contractor's work schedule/plan and coordination with through the Project Representative with the City, County of State Traffic Control authority. It shall include the construction and maintenance of any necessary detour facilities, traffic control barriers; providing of necessary facilities for access to residences and businesses, etc. along the project; furnishing, installing and maintaining of traffic control and safety devices during construction, including placement and removal of temporary pavement markings, and signs; temporary wheelchair ramps, temporary lighting for nightwork, and any other special requirements for safe and expeditious movement of both vehicular and pedestrian traffic.

Payment for Maintenance of Traffic and Traffic Control will be on an incremental basis in accordance with the following:

Percent of Original Contract Amount Earned	Allowable Percent of the Lump Sum Price for the Item
20	20
40	40
60	60
80	80
100	100

M. GENERAL CONDITIONS (Bid Item #25)

The bid price for General Conditions shall be a lump sum amount and shall include obtaining all permits, insurance, and bonds.

The bid price for General Conditions shall not exceed 5% of the Base Bid Subtotal.

N. MOBILIZATION AND DEMOBILIZATION (Bid Item #26)

The bid price for mobilization and demobilization shall be a lump sum amount and shall include securing a staging area in proximity to the work if public lands are insufficient; moving onto the site all materials and equipment; furnishing and erecting temporary buildings, access roads and other items as necessary to complete the work; providing a color audio-videotape of existing conditions of the construction site or route; providing field trailers, sanitary facilities and potable water facilities as required for the proper performance and completion of the work.

Payment for General Conditions each month shall be an equal percentage of the General Conditions bid item, spread equally over the Contract time.

Payment for mobilization will be on an incremental basis in accordance with the following:

Percent of Original Contract Amount Earned	Allowable Percent of the Lump Sum Price for the Item
5	15
10	25
25	50
50	75
75	85
100	100

O. OWNER'S ALLOWANCE (Bid Item #39)

The bid price for Owner's Allowance shall be a lump sum amount for the project. Payment shall be made to the Contractor, at the sole discretion of the Owner for additional Work requested by the Owner that is not covered by the scope of Work identified in this Contract.

P. PERMIT FEE ALLOWANCE (Bid Item #40)
Payment will be made to the Contractor based on actual invoiced amounts paid by the Contractor to obtain required Building Permits and inspections.

Payment will not be made for:

a. Contractor premiums or markups.
b. Fees incurred due to Contractor's negligence.

c. Permits required for items for the Contractor's convenience but not required by the Contract Documents or the Engineer.
d. Fees and costs associated with utility services to temporary construction trailers and electricity required by the Contractor during construction.

END OF SECTION

SECTION 01030
SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1.01 WORKMANSHIP, MATERIAL AND EQUIPMENT

A. When a particular product is specified or called for, it is intended and shall be understood that the proposal tendered by the Contractor included those products in his bid. Should the Contractor desire products equal to those specified, the Contractor shall furnish information as described in the Standard General Conditions. The alternate product or products submitted by the Contactor shall meet the requirements of the Specifications and shall, in all respects, be equal to the products specified by name herein.

B. All apparatus, mechanism, equipment, machinery and manufactured articles for incorporation into the Work shall be the new and unused standard products of recognized reputable Manufacturers.

C. Contractor must provide his own disposal of excavation that he removes from the site.

1.02 CONTRACTOR PROVIDED STAGING AREA

A. The Work of this project is to be performed in a congested area that affords minimal and limited space that the Contractor may use to stage construction activities such as material storage, parking, or tool & supply storage. The Contractor shall secure staging area(s) as he may require and the cost shall be included as part of the price bid for the work.

B. Appropriate temporary security fencing and effective erosion control measures shall be provided for the staging area(s). In particular, effective measures shall be employed to prevent soil, mud, or dust from being tracked onto roadway surfaces between the site of the work and the staging area. The cost to provide and maintain temporary security fencing and erosion control measures shall be considered an incidental project cost shall not be separately measured for payment.

C. When the Work of this project is completed, and before final payment is made to the Contactor, the staging area shall be restored according to the agreement between the Contractor and the staging area owner including removal of temporary fencing and erosion control measures. Roadway damage that may have occurred between the project site and staging area because of construction equipment operation between the two sites shall be repaired to the satisfaction of the Engineer. The City may withhold payment retainage to the Contractor until the requirements of this paragraph are satisfied.

1.03 CONNECTIONS TO EXISTING SYSTEMS

A. The Contractor shall perform all work necessary to locate, excavate, restrain or confirm restraint, and prepare for connections to the existing systems, as shown on the Construction Drawings. The cost for this work and for the actual connection to the

existing systems shall be included in the various prices bid for the Work, except where specifically indicated as a separate Item, and shall not result in any additional cost to the Owner.

B. The Contractor shall install, pressure test, disinfect, and wait for clearance from the Health Department or FDEP for the new water main prior to transferring services over to the new main and taking the existing water main out of service. The maximum duration that the water main can be temporarily taken out-of-service shall be as specified herein. The Contractor shall plan his work accordingly so as to comply with these requirements.

C. The Contractor shall provide, install and test any required piping and valves, including tapping sleeves and valves. The Contractor shall make the tap in the presence of a City Utilities Reprehensive, and only in the presence of a City Utilities Representative.

D. The Contractor shall provide the City's Project Manager with written notice of any requirement to shut down the system at least 72 hours in advance.

E. It shall be noted that existing water mains can be shut down for a maximum of 3 hours.

1.04 PROVISIONS FOR CONTROL OF EROSION

A. Sufficient precautions shall be taken during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumens, calcium chloride, or other polluting materials harmful to humans, fish, or other life, into the supplies and surface waters of the state. Control measures must be adequate to assure that turnbidity in the receiving water will not be increased more than 10 nephelometric turbidity units (NTU), or as otherwise required by the state or other controlling body, in water used for public water supply or fish unless limits have been established for the particular water. In surface water used for other purposes, the turbidity must not exceed 25 NTU unless otherwise permitted. Special precautions shall be taken in the use of construction equipment to prevent operations which promote erosion.

B. Comply with the requirements of the EPA-NPDES general permit for stormwater discharges and the stormwater pollution prevention plan developed for the project.

1.05 WARRANTIES

A. The Contractor and the materials manufactures shall warranty all workmanship and materials for a minimum period of twelve (12) months. Warranty period shall commence on the date of Final Acceptance by the Owner.

B. If, within the warranty period, repairs or changes are required in connection with guaranteed work which, in the opinion of the Engineer, is rendered necessary as the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, the Contractor shall, promptly upon receipt of notice form the Owner and without expense to the Owner, do the following:

1. Place in satisfactory condition in every particular all of such warranted work and correct all defects herein.

2. Make good all damage which, in the opinion of the Engineer, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract.

3. Make good any work or material or site disturbed in fulfilling any such guarantee.

C. If the Contract, after notice, fails within (10) days to proceed to comply with the terms of this warranty, the Owner may have the defects corrected, and the Contractor and his surety shall be liable for all expense incurred, provided, however, that in case of an emergency where, in the opinion of the Owner, delay would cause loss or damage, repairs may be started without notice being given to the Contractor and the Contractor shall pay the cost thereof.

D. All special guarantees or warranties applicable to specific parts of the work, as may be stipulated in the Contract Specifications or other papers forming a part of this Contract, shall be subject to the terms of this paragraph during the first year of life of each such guarantee. All special guarantees and manufacturers'' warranties shall be assembled by the Contractor and delivered to the Engineer, along with a summary list thereof, before the acceptance of the Work.

E. The Contractor's twelve (12) month warranty or guarantee period shall be part of the project performance bond.

1.06 CONSTRUCTION CONDITIONS

A. The Contractor shall strictly adhere to the specific 2010 Florida Plumbing Code requirements of the governmental unit(s) or agency(ies) having jurisdiction over the work. Whatever there is a difference in the requirements of the 2010 Florida Plumbing Code and these Specifications, the more stringent shall apply.

1.07 PUBLIC NUISANCE

A. The Contractor shall not create a public nuisance including, but not limited to, encroachment on adjacent lands, flooding of adjacent lands, or excessive noise.

B. Trash accumulation, including accumulation of the lunch-break refuse, shall be avoided. The Contractor shall provide appropriate containers for collecting rubbish and the Contractor's superintendent shall enforce their use. The containers shall also be regularly emptied.

C. No extra charge may be made for time lost due to work stoppage resulting from the creation of a public nuisance.

1.08 HAZARDOUS LOCATIONS

A. Contractor shall perform work in accordance with OSHA, state and local safety requirements.

1.09 RELOCATIONS

A. The Contractor shall be responsible for the relocation of structures, including but not limited to: utility poles, signs, sign poles, fences, piping, conduits and drains that interfere with the positioning of the work as set out on the Drawings. The cost of all such relocations shall be included in the bid.

1.10 SUSPENSION OF WORK DUE TO WEATHER

A. During inclement weather, all work that could be damaged or rendered inferior by such weather conditions shall be suspended. The orders and decisions of the Engineer as to suspensions shall be final and binding. The ability to issue such an order shall not be interpreted as a requirement to do so. During suspension of the work for any cause, the work shall be suitably covered and protected so as to preserve it from injury by the weather or otherwise; and, if the Engineer shall so direct, rubbish and surplus materials shall be removed. Throughout the duration of the Work, the Contractor shall provide temporary connections between new portions of the storm drainage system and existing portions of the storm drainage system in order to drain storm water runoff from the work area consistent with the requirements for providing effective erosion control.

1.11 HURRICANE PREPAREDNESS PLAN

A. Within 30 days of the date of Notice to Proceed, the Contractor shall submit to the Engineer and Owner a Hurricane Preparedness Plan, The Plan should outline the necessary measures that they Contractor proposes to perform at no additional cost to the Owner in case of a hurricane warning.

B. In the event of inclement weather, or whenever Engineer shall direct; the Contractor shall carefully protect the Work and materials against damage or injury from the weather. If, in the opinion of Engineer, any portion of Work materials has been damaged or injured by reason of failure on the part of the Contractor or subcontractors to set protect the Work, such Work and materials shall be removed and replaced at the expense of the Contractor.

1.12 SALVAGE

A. Any existing equipment or material, including but not limited to, valves, pipes, fittings, couplings, etc., which is removed or replaced as a result of construction under this project may be designated as necessary and delivered, to the Owner at a location directed by the Owner, at the Contractor's expense. Removed material not designed as salvage, or that the Engineer decides is not to salvage, shall become the property of the Contractor, removed from the site, and properly disposed at the Contractor's expense.

1.13 PERMITS

A. Upon notice of award, the Contractor shall immediately apply for all applicable permits not previously obtained by the Owner to do the work from the appropriate governmental agency or agencies. This includes a City Building Permit for all work to be performed on private property. No work shall commence until all applicable permits have been obtained and copies delivered to the Engineer. The cost for obtaining all permits shall be borne by the Contractor.

B. The Contractor shall be responsible for complying with all permits conditions for any permits that the Owner has already obtained and are attached to these specifications.

C. The City has obtained, or is actively in the process of obtaining, the following permits for the Work:

1. Florida Department of Environmental Protection/Sarasota County Health Department Public Water System Construction Permit.
2. Sarasota County Right of Way Use Permit.

1.14 PUMPING

A. The Contractor shall, for the duration of the contract, and with his own equipment, pump out stormwater runoff or groundwater which may flow, seep or leak into excavations.

B. Contractor shall provide labor, material, and equipment necessary to provide a pump discharge that is located and made in a manner acceptable to the Engineer; that meets all permits and environmental protection requirements; and meets all federal, state, and local laws. At no time will the Contractor be allowed to pump sewage or polluted water into storm drains, streams, open channels, or onto streets during the course of the work. The Contractor shall also provide all necessary noise suppression devices to minimize pump noise and comply with the noise requirements of the Contract Documents.

1.15 NOTIFICATION OF WORK ON EXISTING FACILITIES

A. Before commencing work on any of the existing structures or equipment, the Contractor shall notify the Owner/Engineer, in writing, at least 10 calendar days in advance of the date he proposes to commence such work.

B. Contractor shall notify the various permitting and regulatory agencies prior to commencing the work permitted and regulated by the affected permits in accordance with the conditions of the permit.

1.16 EXISTING UNDERGROUND PIPING, STRUCTURES AND UTILITIES

A. The attention of the Contractor is drawn to the fact that during excavation, the possibility exists that the Contractor will encounter various water, gas, telephone, electrical, service laterals or other utility lines not shown on the Drawings. The Contractor shall exercise extreme care before and during excavation to locate and flag these lines so as to avoid damage thereto. Should damage occur to an existing line, the Contractor shall immediately contact the utility and the Owner. If the repair is to be completed by the Contractor it shall be carried out in a timely and quality manner. Cost associated with such damage shall be borne by the Contractor at no additional cost to the Owner.

B. It is the responsibility of the Contactor to ensure that all utility or other poles, the stability of which may be endangered by the close proximity of excavation, are temporarily supported in position while work proceeds in the vicinity of the pole and that utility or other companies concerned be given reasonable advance notice of any such excavation by the Contractor.

C. The locations of existing utilities are shown without express or implied representation, assurance, or guarantee that they are complete or correct or that they represent a true picture of underground piping to be encountered. Encountering existing utilities at different depth or locations than shown on the drawings shall not be cause for additional cost to the Owner.

D. The existing piping and utilities that interfere with new construction shall be rerouted as shown, specified or required. The Contractor shall excavate sufficiently ahead of the proposed work to predict potential conflicts. Before any piping and utilities not shown on the Drawings are disturbed, the Contract shall immediately notify the Engineer of the location of the pipeline or utility and shall reroute or relocate the pipeline or utility as directed.

E. The Contractor shall exercise care in any excavation to locate all existing piping and utilities. All utilities that do not interfere with completed work shall be carefully protected against damage. Any existing utilities damage in any way by the Contractor shall be restored or replaced by the Contractor at his expense, as directed by the Engineer.

F. It is intended that wherever existing utilities such as water, gas, telephone, electrical, or other service lines must be crossed, deflection of the pipe within recommended limits and cover shall be used to satisfactorily clear the obstruction unless otherwise indicated on the Drawings. However, when in the opinion of the Owner or Engineer this procedure is not feasible, the Engineer may direct the use of fittings for the utility crossing. The Contractor shall verify utility crossing with test pits prior to construction as required by the Engineer.

G. The contractor shall preserve existing sanitary sewers without interruption while performing the work of the project. When the drawings indicate that all or a portion of a service lateral is to be replaced, the Contractor shall accomplish the work without disruption of service, backup in the structure served, or leakage of sewage into the excavation.

1.17 JOB SITE SECURITY

A. The Contractor shall properly protect the work area to prevent the public from entering the work area. The Contactor shall furnish and erect such barricades, fences, light, and danger signals and shall provide such other precautionary measures for the protection of persons or property and of the work as necessary. Barricades/fencing shall be painted or have a reflective color that will be visible at night. From sunset to sunrise, the Contactor shall furnish and maintain at least one light at each barricade/fence and sufficient numbers of barricades/fencing shall be erected to keep vehicles or pedestrians from entering on or into any work under construction.

B. The Contractor will be held responsible for all damage to the work due to failure of barricades, fencing signs, and lights to protect it and whenever evidence is found of such damage, the Contractor shall immediately remove the damaged portion and replace it at his cost and expense. The Contractor's responsibility for the maintenance of barricades, signs, and lights shall not cease until the project has been accepted by the Owner.

1.18 NEW SERVICE CONNECTIONS

A. The work requires that new services be installed to the lots shown on the drawings. In most cases, this shall include a new service from the new water main to the new meter box, installing a new, City-supplied meter in the new meter box and a new service line from the meter box to the building on the lot.

B. In some cases, as shown on the Drawings, the existing meter box and meter, and the line from the meter box to the building will remain. In such cases, the work involves only running a new service line from the new water main to the existing meter box and connecting into the existing meter with a new curb stop. No new backflow prevention device is required.

C. The Contractor's pricing for installing the new service lines on private property shall allow for installation by either open cut or by horizontal directional drill based on direction from the Owner and feedback from the property owner.

D. After the new water main and street services are tested, disinfected and cleared by the Health Department/FDEP, the Contractor shall transfer each affected lot's service to the new water main. This shall include:

1. Unless the Drawings call for connecting to an existing meter:

   a. Furnishing and installing a new meter box and a new service from the meter box to the existing water service connection on the building being served. New service laterals shall be Schedule 40 PVC or SDR-9 HDPE and shall match the size of the new street lateral. All above ground pipe shall be copper or brass.

   b. Installing a City supplied meter in the new meter box. Piping in the meter box shall include all accessories necessary to connect the meter.

2. Some of the existing services have dual or double check valve assemblies or RPZs. Unless connecting to an existing meter, all existing dual or double check valve assemblies and RPZs on residential services shall be removed and turned over to the property Owner and a new dual check valve assembly shall be installed on the new service. Dual check valve assemblies shall be Conbraco model 40-300. New dual check valve assemblies are only required if the existing service has a backflow prevention device. Existing RPZs on commercial services shall be relocated and reinstalled on the new service. All new dual check valve and relocated commercial RPZ assemblies shall be tested after installation and certified by a licensed backflow testing professional prior to activating the new service.

3. Temporarily discontinuing water service to the affected lot and concurrently relocating the existing RPZ (where applicable), connecting the new service laterals to the meter and, if included, to the building.

4. Restoring water service to the affected building by placing the new service line in to service. The trench for the new service from the meter to the building shall not

be backfilled until the City's Plumbing Inspector inspects the line visually for leaks and passes the line.

5. If not connecting to an existing meter, removing the existing meter box and backfilling and restoring the remaining hole.

6. If not connecting to an existing meter, cutting and capping the old services line at the building, a minimum of 6 inches below ground.

E. All work conducted downstream of the meter and on private property shall be completed by a licensed plumber hired by the Contractor and properly registered to do work in the City.

F. Irrigation meters and services may not be shown on the drawings. If there is an existing irrigation meter, a new irrigation water service will be required and the contractor's plumber will be responsible for connecting the new irrigation water service to the existing irrigation system. Payment for the new irrigation service and meter will be made at the contract unit price for the same size service.

G. The City has obtained written permission from property owners for the work to be completed on private property. Copies will be provided to the Contractor.

H. Property owners and/or residents shall be notified at least 72 hours in advance of work being conducted on their property and for the new to turn off water service. Once the work begins on a private lot, work shall continue and be completed within 5 working days. Trenches or holes shall not remain open overnight or over the weekend. If necessary to allow for Building Department inspection, the trench for the new water service may remain open overnight for one night but shall be covered with plywood.

1.19 DOOR HANGERS

A. The Contractor shall develop and distribute door hangers to notify residents and businesses of the impending work on their street. The language to be used in the door hanger shall be submitted to the City of approval prior to their production.

B. Door hangers shall be placed on the front door of each affected property on a given street one week prior to commencing work.

C. When necessary, Boil/Rescind notices will be provided by the City for distribution by the Contractor. Notices shall be distributed a minimum of 24 hours before shutdowns.

1.20 RESTORATION

A. The Contractor shall restore disturbed areas progressively as the work continues. No more than a total of 1,200 linear feet of disturbed work area along the streets shall remain unrestored at any given time.

B. No open trenches shall be allowed during non-working hours for all work in this project.

C. Good housekeeping on this project is extremely important and the Contractor will be responsible for keeping the construction site neat and clean, with debris being removed daily as the work progresses or as otherwise directed by the Engineer. Good housekeeping at the job site shall include: Removing all tools and temporary structures, dirt, rubbish, etc.; hauling all excess dirt, rock, etc., from excavations to a dump provided by the Contractor; and all clean up shall be accomplished to the satisfaction of the Engineer. Dust shall be controlled daily as may be required. Immediately after construction completion in an area or party thereof (including restoration), barricades, construction equipment and surplus and discarded materials shall be removed by the Contractor.

D. In the event that the timely clean up restoration of the job side is not accomplished to the satisfaction of the Engineer, the Engineer shall make arrangements to affect the necessary clean up by others. The Contractor shall be charged for these costs through deductions in payment due the contractor. If such action becomes necessary on the part of an in the opinion of the Engineer, the City shall not be responsible for the inadvertent removal from the work site of materials which the Contractor would not normally have disposed of had he affected the required clean up.

E. The City reserves the right to stop new construction until the provisions of this Article are satisfied with no award of additional contract time or cost.

1.25 GEOTECHNICAL INVESTIGATION

A. Contractors may perform geotechnical investigations at the site if they deem necessary for preparing their bids.

1.26 SHUTDOWN OF EXISTING WATER MAINS

A. In the event that the Contractor shuts down and depressurizes an existing water main with live service connections as part of his construction efforts, he shall be responsible for notifying residents a minimum of 48 hours in advance of the shutdown. Prior to placing the water main back into service, the Contractor shall develop Boil Water Notices and distribute the notices to the affected properties. A copy of the required City of Venice Boil Water Notice forms is provided as Attachment No. 3 to these technical specifications.

1.27 GROUTING OF ABANDONED WATER MAIN

A. All abandoned water mains 3” and greater shall be pumped full of 100 psi excavatable flowable fill in accordance with FDOT Standard Specifications section 121. A pumpable grout product with strength equivalent to the flowable fill will also be considered acceptable. Contractor shall ensure the grout fills the entire length of the pipe, and shall demonstrate the adequacy of the fill method in a manner acceptable to the City and Engineer.

1.28 STORMWATER POLLUTION PREVENTION PLAN AND NOTICE OF INTENT

A. Prior to the start of construction, the Contractor shall sign the Stormwater Pollution Prevention Plan provided on sheet G1.02 and file the Notice of Intent to Discharge Stormwater from Construction Activities with the FDEP along with associated fee. Compensation for the fee will be paid for from contract’s permitting allowance.

1.29 COORDINATION WITH THE CITY BUILDING DEPARTMENT

A. The City Building Department will issue a master Plumbing Permit for all involved private properties, and an $80.00 fee must be paid for each property. A Permit Fee Allowance of $15,000 is included in the contract in order to reimburse the Contractor for these fees.

B. It is anticipated that the inspection and approval process with the Building Department will be as follows:

1. The Contractor will fill in the required Minor Work Plumbing Permit application and pay the $80 fee for each property. The Building Department will help the Contractor in doing duplicate permit applications.

2. After installing the new service lines between the meter and the building, call in for an inspection prior to backfilling the trench. The plumber shall provide the Building Department a minimum of 24-hours notice for inspections. If the service is found to be acceptable by the Building Department inspector, the trench may be backfilled and the new service line may be activated. If the inspector finds deficiencies in the service line, the plumber shall correct the deficiencies and then call for a re-inspection.

3. The plumber shall notify the Building Department once the work on each private property is completed for find plumbing inspection. This inspection will include observing the new service line visually for leaks. The service line trench shall therefore not be backfilled until the inspection is completed.

4. When work on all lots is completed, the plumber shall file the appropriate closeout paperwork with the Building Department.

1.31 COOPERATION WITH OTHER CONTRACTORS

A. The Contract is not entitled to exclusive use of the Site. The City may perform additional work with its own forces or through another Contractor within the project area. The Contractor shall provide the other City contractors, including but not limited to the other contactor's employees, agents, subcontractors, and suppliers (or the City's forces performing the additional work), access to the site and shall cooperate with said Contractors and the City.

1.32 PITS FOR HORIZONTAL DIRECTIONAL DRILLING

A. The Contractor shall provide proposed pit locations as part of his Horizontal Directional Drilling shop drawing submittal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01050
FIELD ENGINEERING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope of Work: Provide and pay for field engineering service for Project.

1. Survey work required in execution of Work.

2. Civil, structural, or other professional engineering services specified or required to execute Contractor's construction methods.

3. The method of field staking for the construction of the Work shall be at the option of the Contractor. The Owner has provided the engineering survey necessary to establish reference points which in his judgment are necessary to enable the Contractor to proceed with his work.

4. The accuracy of any method of staking shall be the responsibility of the Contractor. All engineering for vertical and horizontal control shall be the responsibility of the Contractor.

5. The Contractor shall be held responsible for the preservation of all stakes and marks. If any stakes or marks are carelessly or willfully disturbed by the Contractor, the Contractor shall not proceed with any work until he has established such points, marks, lines, and elevations as may be necessary for the prosecution of the Work.

6. The Contractor shall retain the services of a registered land surveyor licensed in the State of Florida to identify existing control points and maintain a survey during construction.

B. Related Requirements Described Elsewhere:

1. Conditions of the Contract.

2. Summary of Work: Section 01010.

1.02 QUALIFICATIONS OF SURVEYOR OR ENGINEER

A. Qualified engineer or registered land surveyor, acceptable to the Owner and the Engineer.

B. Registered professional engineer of the discipline required for the specific service on the Project, currently licensed in the State of Florida.

1.03 SURVEY REFERENCE POINTS

A. Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.

1. Make no changes or relocations without prior written notice to the Engineer.

2. Report to the Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

3. Require surveyor to replace Project control points which may be lost or destroyed at no additional cost to the Owner. Establish replacement based on original survey control.

1.04 PROJECT SURVEY REQUIREMENTS

A. Establish a minimum of two (2) permanent bench marks on site, referenced to data established by survey control points.

Record locations, with horizontal and vertical data, on Project Record Documents.

B. Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means:

Site improvements:

a. Stakes for grading, fill, and topsoil replacement.
b. Utility slopes and invert elevations.

C. From time to time, verify layouts by same methods.

1.05 RECORDS

A. Maintain a complete, accurate log of all control and survey work as it progresses.

B. At the end of the project, submit a certified site survey at 1 inch equals 20 feet scale on reproducible tracing sheets 24 inches by 36 inches, indicating the new building corners and location of all new structures.

C. At the end of the project, submit a certified survey at the same scale as the Engineer's line drawings indicating elevations and stationing at 100-foot pipe increments and at all valve and fitting locations.

1.06 SUBMITTALS

A. Submit name and address of surveyor and professional engineer to the Engineer.

B. On request of the Engineer, submit documentation to verify accuracy of field engineering work.

C. Submit (3) full-size 22”x34” drawings of the as-built survey, signed and sealed by a Registered Land Surveyor.

D. Submit (2) CD-ROMs of the as-built survey in AutoCAD 2010 or newer format.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01060
REGULATORY REQUIREMENTS & PERMITS

PART I – GENERAL

1.01 REQUIREMENTS

A. The CONTRACTOR shall comply with all Federal, State, and local building codes, laws and/or ordinances appropriate to the project, including those of the:

1. National Electric Code
2. Florida Building Code
3. Chapter 556, Florida Statutes, Underground Facility Damage Prevention and Safety Act
4. Others as noted in the Section entitled "Summary of Work"

B. The CONTRACTOR shall comply with these codes, laws, regulations, rules, and directives of all agencies, boards, districts, and governmental bodies having jurisdiction.

C. The CONTRACTOR shall obtain and pay the cost of all permits, fees, tie-in or connection charges associated with the project.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. All applicable sections of the Specifications

B. General Conditions

1.03 PERMITS BY OWNER

A. The OWNER prior to the advertisement of the project has applied for or has obtained permits from the following agencies:

1. Florida Department of Health: General Permit for Construction of Water Main Extensions for PWSs.
2. Sarasota County Right-Of-Way Use Permit
3. City of Venice Right-Of-Way Use Permit

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 MEASUREMENT AND 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 Item 1 – Mobilization.

END OF SECTION

SECTION 01061
STORMWATER POLLUTION PREVENTION / NPDES REQUIREMENTS

PART I – GENERAL

1.01 SECTION INCLUDES

A. Stormwater Pollution Prevention Plan requirements and recommendations under the NPDES program

1.02 PURPOSE

A. The purpose of this section is to outline minimum requirements for stormwater pollution prevention as required under the NPDES program. There may be more stringent local government or OWNER requirements for Erosion and Sediment Control, which would be located in the Specifications or on the Drawings. The more stringent requirement governs.

1.03 RELATED SECTIONS

A. Section 01060: Regulatory Requirements
B. Section 01568: Temporary Erosion and Sedimentation Control
B. Section 02370: Erosion and Sediment Control

1.04 ABBREVIATIONS

A. NPDES - National Pollution Discharge Elimination System
B. SWPPP - Stormwater Pollution Prevention Plan
C. NOI - Notice of Intent
D. NOT - Notice of Termination

1.05 CONSTRUCTION PROJECTS REQUIRING COMPLIANCE WITH NPDES GENERAL PERMIT

A. All projects 1 or more acres in size that discharge to offsite areas.

1.06 GENERAL REQUIREMENTS

A. The CONTRACTOR and all subcontractors involved with a construction activity that disturbs site soil or who implement a pollutant control measure identified herein must comply with the following requirements of the NPDES General Permit and any local governing agency having jurisdiction concerning erosion and sedimentation control.

B. The Contractor is responsible for preparing a SWPPP and for completing and submitting the required NOI and NOT forms, and paying all associated fees. NOI and NOT forms, and permit application fee information are available for download at:

1. Projects located in Florida: www.dep.state.fl.us/water/stormwater/npdes/

C. The SWPPP shall include the elements necessary to comply with the national baseline general permit for construction activities administered by the U.S. Environmental Protection Agency (EPA) or states designated to administer the EPA NPDES program, and shall also include all local governing agency and OWNER requirements. There may be more stringent local government or OWNER requirements for Erosion and Sediment Control, which would be located in the Specifications or on the Drawings.

D. A copy of the NOI and a description of the project must be posted in a prominent place for public viewing at the construction site.

E. The SWPPP must be implemented at the start of construction. A complete copy of the SWPPP, including copies of all inspection reports, plan revisions, etc., must be retained at the project site at all times during working hours and kept in the permanent project records for at least three years following submission of the NOT.

F. The CONTRACTOR must provide names and addresses of all subcontractors working on this project who will be involved with the major construction activities that disturb site soil. That information must be part of the SWPPP.

G. The CONTRACTOR and all subcontractors involved with the major construction activities that disturb site soil must sign a copy of the appropriate certification statement included herein.

H. Regular inspections by the CONTRACTOR must be made to determine effectiveness of the SWPPP. The inspector must be a person familiar with the site, the nature of the major construction activities, and qualified to evaluate both overall system performance and individual component performance.

I. The SWPPP must be updated each time there are significant modifications to the pollutant prevention system or a change of contractors working on the project who disturb site soil. The CONTRACTOR must notify EPA or the local state agency administering the NPDES program as soon as these modifications are implemented.

J. Discharge of oil or other hazardous substances into the storm water is subject to reporting and cleanup requirements. Refer to Part III.B of the NPDES General Permit for additional information. Copies of the NPDES General Permit are available for download at the sites listed in item B.

K. Once the site reaches final stabilization, the general contractor must complete and submit the NOT to the required NPDES agency and the OWNER.

L. The SWPPP must be amended as necessary during the course of construction in order to keep it current with the pollutant control measures utilized at the site.

M. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated must be maintained until the NOT is filed. Copies of these records shall be provided to the OWNER.

N. The SWPPP must be implemented before construction begins on the site. The primary purpose of the SWPPP is to address the impact of storm rainfall and runoff on areas of the ground surface disturbed during the construction process. In addition, it shall include recommendations for controlling other sources of pollution that could accompany the major construction activities. The SWPPP will terminate when disturbed areas are stabilized, construction activities are completed, and the NOT has been filed.

1.07 ALLOWABLE NON STORMWATER DISCHARGES DURING CONSTRUCTION

A. The national baseline General Permit for Storm Water Discharges from Construction Activities prohibits most non-storm water discharges during the construction phase. Allowable non-storm water discharges that could occur during construction on this project, which would therefore be covered by the General Permit, include:

1. Discharges from fire fighting activities

2. Fire hydrant flushing

3. Water used to wash vehicles or control dust

4. Water flowing from potable sources and water line flushing

5. Irrigation drainage

6. Runoff from pavement wash-down where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents have not been used

7. Springs and uncontaminated groundwater

1.08 MINIMUM SWPPP CONSTRUCTION GUIDELINES

A. Construct rock pads for construction entrance/exit.

B. Install sediment barriers down slope from construction activities that disturb site soil.

C. Construct rock surface for temporary parking.

D. Install sediment barriers on the down slope prior to clearing and grubbing.

E. Install sediment barriers on the down slope side of utility construction and soil stockpiles.

F. Install sediment barriers on the down slope from disturbed soil during grading activities.

1.10 MINIMUM EROSION AND SEDIMENT CONTROL

A. The primary technique to be used at this project for stabilizing site soil will be to provide a protective cover of turf grass or pavement.

B. Within 14 days after construction activity ceases on any particular area, all disturbed ground where there will not be construction for longer than 21 days must be seeded with fast-germinating temporary seed and protected with mulch.

C. All areas at final grade must be sodded or permanently seeded and mulched (as required by the Drawings) within 14 days after completion of the major construction activity. Final site stabilization is achieved when turf grass cover provides permanent stabilization for at least 70 percent of the disturbed soil surface, exclusive of areas that have been paved.

D. Construction traffic must enter and exit the site at the stabilized construction entrance. The purpose is to trap dust and mud that would otherwise be carried off-site by construction traffic.

E. Water trucks will be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the CONTRACTOR and shall be in compliance with applicable local and state dust control regulations.

F. No solid materials, including building materials, are allowed to be discharged from the site with storm water. All solid waste, including disposable materials incidental to the major

construction activities, must be collected and placed in containers. The containers shall be emptied periodically by a contract trash disposal service and hauled away from the site.

G. Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed of so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

H. All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities will be provided at the site throughout the construction phase. They must be utilized by all construction personnel and shall be serviced by a commercial operator.

I. Non-storm water components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the State Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site.

J. Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed at an approved solid waste or chemical disposal facility.

K. Between the time the SWPPP is implemented and final site stabilization is achieved, all disturbed areas and pollutant controls must be inspected at least once every seven calendar days and within 24 hours following a rainfall of 0.5 inches or greater. The inspections are to be conducted by the CONTRACTOR'S designated representative.

L. Sediment barriers must be inspected and, if necessary, they must be enlarged or cleaned in order to provide additional capacity. All material excavated from behind sediment barriers shall be stockpiled on the up slope side. Additional sediment barriers shall be constructed as needed.

M. All discharge points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters.

N. Based on inspection results, any modification necessary to increase effectiveness of this SWPPP to an acceptable level must be made within seven calendar days of the inspection. The inspection reports must be completed entirely and additional remarks should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance.

O. Inspection reports must be kept on file by the CONTRACTOR as an integral part of this SWPPP for at least three years from the date of completion of the project.

P. It is the responsibility of the CONTRACTOR to assure the adequacy of site pollutant discharge controls.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

3.01 MEASUREMENT AND PAYMENT

A. The CONTRACTOR shall be reimbursed for permit fees as described in the Section entitled "Measurement and Payment".

B. 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 Item 1 – Mobilization.

END OF SECTION

CONTRACTOR
CERTIFICATION

The CONTRACTOR and/or subcontractor(s) that will implement the pollutant control measures described in the SWPPP must be identified below. Each must sign a statement certifying that they understand the NPDES general permit authorizing storm water discharges during construction. These statements must be maintained in the SWPPP file on site.

Contractor implementing the SWPPP:

_____
Business Name

_____
Business Address

_____

_____

_____
Business Telephone Number

CERTIFICATION: (Note signature requirements in Part VI.G. of the NPDES General Permit.)

> ***"I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification."***

_____
Signature Date

_____
Printed Name

SECTION 01090
DEFINITIONS AND STANDARDS

PART I – GENERAL

1.01 RELATED DOCUMENTS

A. Drawing and general provisions of contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.02 DEFINITIONS

A. General: Basic Contract definitions are included in the General Conditions.

B. Indicated: The term “Indicated” refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.

C. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Design Professional", "requested by the Design Professional", and similar phrases. However, no implied meaning shall be interpreted to extend the Architect's or OWNER’S responsibility into the CONTRACTOR’S area of construction supervision.

D. Approve: The term "approved", where used in conjunction with the Design Professional's or OWNER’S action on the CONTRACTOR’S submittals, applications, and requests, is limited to the duties and responsibilities of the Design Professional or OWNER as stated in General and Supplementary Conditions or the Construction Agreement. Such approval shall not release the CONTRACTOR from responsibility to fulfill Contract requirements unless otherwise provided in the Contract Documents.

E. Regulation: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work, whether lawfully imposed by authorities having jurisdiction or not.

F. Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations".

G. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations".

H. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use".

I. Installer: An "Installer" is the CONTRACTOR or an entity engaged by the CONTRACTOR, either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. The term "experienced," when used with the term "Installer" means having a

minimum of five (5) previous Projects similar in size and scope to this Project, being familiar with the precautions required, and having complied with requirements of the authority having jurisdiction.

J. Project Site: The space available to the CONTRACTOR for performance of construction activities, either exclusively or in conjunction with others performing other construction activities as part of the Project. The extent of the Project Site is shown in the Contract Documents and may or may not be identical with the description of the land upon which the Project is to be built.

K. Testing Laboratories: A "testing laboratory" is an independent entity engaged by the CONTRACTOR to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.03 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-Division format and MASTERFORMAT numbering system.

B. Specification Content: This Specification uses certain conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.

2. Imperative and streamlined language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the CONTRACTOR. At certain locations in the text, for clarity, subjective language is used to describe responsibilities that must be fulfilled indirectly by the CONTRACTOR, or by others when so noted.

a. The words "shall be" shall be included by inference wherever a colon (:) is used within a sentence or phrase.

C. Assignment of Specialists: The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and assignments are requirements over which the CONTRACTOR has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the CONTRACTOR.

1. This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

2. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter". It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.04 INDUSTRY STANDARDS

A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the CONTRACTOR must keep available at the Project Site for reference.

B. Publication Dates: Where the date of issue of a referenced standard is not specified, comply with the standard in effect as of date of Contract Documents.

1. Updated Standards: At the request of the Architect, CONTRACTOR, or authority having jurisdiction, submit a Change Order proposal/request where an applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Architect and OWNER will decide whether to issue a Change Order to proceed with the updated standard.

C. Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Architect for a decision before proceeding.

1. Minimum Quantity or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances or uncertainty to the Architect for a decision before proceeding.

D. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed for performance of a required construction activity, the CONTRACTOR shall obtain copies directly from the publication source.

E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change and are believed to be, but are not assured to be, accurate and up to date as of date of the Contract Documents.

AAMA	American Architectural Manufacturer's Association 1827 Walden Office Square *Suite 104* Schaumburg, IL 60173	(847) 303-5664
ACI	American Concrete Institute *P.O. Box 9094* Farmington Hills, MI 48333	(248) 848-3700

AIA	American Institute of Architects 1735 New York Ave., N.W. Washington, DC 20006	(202) 626-7300
ANSI	American National Standards Institute 11 East 42nd Street New York, NY 10036	(212) 642-4900
APA	American Plywood Association P.O. Box 11700 Tacoma, WA 98411	(206) 505-8605
ARMA	Asphalt Roofing Manufacturers Association 4041 Powder Mill Road Suite 404 Calverton, MD 20705	(301) 231-9050
ASTM	American Society for Testing and Materials 100 Barrharbor Drive West Conshohoken, PA 19428	(610) 832-9500
AWPA	American Wood Preserver's Association P.O. Box 5690 Grandbury, TX 76049	(817) 326-6300
AWPB	American Wood Preserver's Bureau 2750 Prosperity Avenue Suite 550 Fairfax, VA 22031	(703) 204-0500
AWS	American Welding Society 550 NW 42nd Avenue Miami, FL 33126	(305) 443-9353
FM	Factory Mutual Engineering and Research 1151 Boston-Providence Turnpike Norwood, MA 02062	(617) 364-2458
FS	Federal Specifications Specifications Unit (WFSIS) 999 “E” Street NW Washington, DC 20463	(202) 694-1000
GA	Gypsum Association 810 1st Street N.E. Suite 510 Washington, DC 20002	(202) 289-5440
ML/SFA	Metal Lath/Steel Framing Association 8 S. Michigan Avenue Suite 1000 Chicago, IL 60603	(312) 456-5590

NAAMM	National Association of Architectural Metal Manufacturers *8 S. Michigan Avenue* Suite 1000 Chicago, IL 60603	(312) 332-0405
NCMA	National Concrete Masonry Association 2302 Horse Pen Road Herndon, VA 20171	(703) 713-1900
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, MA 02269	(617) 770-3000
NRCA	National Roofing Contractors Association 10255 West Higgins Road Suite 600 Rosemont, IL 60018	(847) 299-9070
NIST	National Institute of Standards of Technology 100 Bureau Drive Gaithersberg, MD 20899	(301) 975-6478
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077	(847) 966-6200
PDI	Plumbing and Drainage Institute 45 Bristol Drive Suite 101 S. Easton, MA 02375	(800) 589-8956
SMACNA	Sheet Metal & Air Conditioning Contractors National Association 4201 Lafayette Center Drive Chantilly, VA 20151	(703) 803-2980
SPIB	Southern Pine Inspection Bureau 4709 Scenic Highway Pensacola, FL 32504	(850) 434-2611
SPRI	Single Ply Roofing Institute 200 Reservoir Street Suite 309A Needham, MA 02494	(781) 444-0242
SSPC	Steel Structures Painting Council 2100 Wharton Street Suite 310 Pittsburgh, PA 15203	(800) 837-8303

1.05 CODES/MANUFACTURER'S RECOMMENDATIONS

A. Applicable code requirements are included herein by this reference. However, such are minimum criteria and no reduction from Drawings or Specifications will be permitted, even if allowed by applicable code.

B. Electrical and mechanical apparatus, fixtures and equipment shall bear approved device label of Underwriter's Laboratories.

C. The local building code and the Standard Building Code (latest adopted edition) apply to all work. In event a conflict occurs between the local vs. Standard Code, the greater requirements shall govern.

D. Specifically, comply with the following codes:

1. Local Public Utility regulations.

2. Sanitary Code of the Florida State Board of Health, and pertinent County Board of Health regulations.

3. Municipal and/or County Electrical Code.

4. National Electric Code.

5. Standards of National Board of Fire Underwriters.

6. National Fire Codes.

7. National Fire Protection Association.

8. Florida Energy Efficiency Code for Building Construction.

E. Comply with recommendations of pertinent manufacturer to achieve first quality work.

1.06 SUBMITTALS:

A. Permits, Licenses, and Certificates: For the OWNER'S records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar Documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

PART 2 – PRODUCTS – (NOT USED)

PART 3 – EXECUTION – (NOT USED)

END OF SECTION

SECTION 01120
DEMOLITION AND ALTERATION PROJECT PROCEDURES

PART I – GENERAL

1.01 RELATED DOCUMENTS

A. Drawing and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.02 DESCRIPTION OF REQUIREMENTS

A. Coordinate work of trades and schedule elements of demolition and alteration work by procedures and methods to expedite completion of the Work.

B. In addition to demolition work specifically shown, cut, move or remove items as required to provide access or to allow alterations and new work to proceed.

C. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a workmanlike transition to adjacent new items of construction.

1.03 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: Conform to the applicable Federal, State and local requirements of the following with the modifications and additional requirements specified in this Section, except as superseded and added to by authorities having jurisdiction:

1. ANSI A10.6, "Safety Requirements for Demolition".

B. Operation of Existing Facilities: Existing areas and facilities to remain are in normal use or operation, which shall remain in operation, unless otherwise indicated or specified, and shall be protected from cessation of operation and damage. Avoid interference with the use of adjacent areas and facilities, and interruption of free passage to and from such areas, unless otherwise approved by the OWNER.

C. Structural Integrity: Maintain the structural integrity of the existing building or parts thereof at all times.

1.04 SEQUENCE AND SCHEDULES

A. Schedule Work in the sequences and within times approved by the OWNER, and as indicated by the Contract Documents.

B. Submit two (2) copies of proposed methods and operations of demolition to the OWNER'S REPRESENTATIVE for review prior to the start of work. Provide a detailed sequence of demolition and removal work to ensure the uninterrupted progress of the OWNER'S operations. No demolition shall commence until after schedule of demolition has been approved by the OWNER. Perform demolition work in an orderly sequence in accordance with approved schedule.

1.05 ALTERATIONS, CUTTING, AND PROTECTIONS

A. Assign the work of moving, removal, cutting and patching, to trades qualified to perform the work in a manner to cause the least damage to each type of work, and provide means of

returning surfaces to appearance of new work.

B. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work.

C. Protect existing finishes, equipment, and adjacent work, which are scheduled to remain, from damage.

D. Provide temporary plywood barricades or fencing as required to protect Patrons and other existing facility users from construction and demolition operations. Where temporary barricades are required to provide a thermal barrier, provide insulated walls and seal ends and tops of walls to existing structure remaining.

1.06 EXISTING CONSTRUCTION

Accuracy of Existing Details: Details showing existing construction that is to be demolished or altered are furnished for CONTRACTOR'S convenience and are representative of what the DESIGN PROFESSIONAL believes to be the existing conditions. It is the responsibility of the CONTRACTOR to fully verify all existing conditions and related details.

PART 2 – PRODUCTS

2.01 PRODUCTS FOR PATCHING, EXTENDING AND MATCHING

A. General Requirements that Work be Complete:

1. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work.

a. Generally, Contract Documents will not define products or standards of workmanship present in existing construction. Contractor shall determine products by inspection and any necessary testing, and workmanship by use of the existing as a sample of comparison.

2. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed as necessary to make work complete and consistent to identical standards of quality.

PART 3 – EXECUTION

3.01 PERFORMANCE

A. Patch and extend existing work using skilled mechanics who are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work.

3.02 DAMAGED SURFACES

A. Patch and replace any portion of an existing finished surface which is found to be damaged, lifted, discolored, or shows other imperfections, with matching material.

1. Provide adequate support of substrate prior to patching the finish.

2. Refinish patched portions of painted or coated surfaces in a manner to produce

uniform color and texture over entire surface.

3. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.

B. Within four (4) hours of notification, CONTRACTOR shall make repairs required to stop leaks resulting from CONTRACTOR'S operations. If leaks are not stopped within this time period, OWNER may take steps as required to have leaks repaired and shall subsequently bill CONTRACTOR for cost of repairs.

C. Within 72 hours of notification, CONTRACTOR shall make repairs or cause to be repaired any damage (either interior or exterior) to the building resulting from CONTRACTOR'S operations. If repairs are not made within this time period, OWNER may take steps as required to have damage repaired and shall subsequently bill CONTRACTOR for cost of repairs. Repairs shall be made to match original condition or better.

3.03 TRANSITION FROM EXISTING TO NEW WORK

A. When new work abuts or finishes flush with existing work, make a smooth and workmanlike transition. Patched work shall match existing adjacent work in texture and appearance so that the patch or transition is invisible at a distance of five feet.

1. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

2. Match existing finishes and align new work with existing structure where new work abuts existing structure or where indicated by the Contract Documents.

3.04 CLEANING

A. Perform periodic and final cleaning as directed by OWNER and in Section 01700.

1. Clean Owner-occupied areas daily where debris and dust occur resultant from Construction Activities.

2. Clean spillage, overspray, and collection of dust in Patron-occupied areas immediately.

B. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.

C. As completion of alterations work in each area, provide final cleaning and return area to a condition suitable for use by OWNER.

END OF SECTION

SECTION 01200
PROJECT MEETINGS

PART I – GENERAL

1.01 PRECONSTRUCTION MEETING

Prior to the delivery of materials or the start of any construction, the CONTRACTOR shall request a Preconstruction Meeting from the OWNER'S REPRESENTATIVE. A minimum two (2) working days notice shall be required.

A. Schedule

The OWNER'S REPRESENTATIVE will establish the meeting place, time and date, distribute agenda, notify participants, and administer the meeting. The CONTRACTOR shall notify major Subcontractors.

B. Attendance

1. OWNER

2. OWNER'S REPRESENTATIVE

3. CONTRACTOR

4. GOVERNMENTAL AGENCIES

a. Major Subcontractors
b. Utility Companies
c. Safety Representatives

5. AS APPLICABLE

C. Agenda

1. The items below are to be distributed by the CONTRACTOR and discussed.

a) List of names and telephone numbers for superintendent, foreman and other key personnel.

b) List of major subcontractors and suppliers.

c) Projected Construction Schedules.

2. Critical Work sequencing.

3. Major equipment deliveries and priorities.

4. Project coordination.

5. Responsibilities of OWNER, OWNER'S REPRESENTATIVE, DESIGN PROFESSIONAL, CONTRACTOR and other agencies.

6. Procedures and processing of:

a. Field decisions.
b. Proposal requests.
c. Submittals.
d. Field Directives.
e. Change Orders.
f. Applications for Payment.

7. Adequacy of distribution of Contract Documents.

8. Procedures for maintaining Record Documents.

9. Use of premises.

10. Construction Facilities, Controls and Construction bids.

11. Temporary utilities.

12. Safety and first aid procedures.

13. Security procedures.

14. Housekeeping procedures.

15. Testing

D. Minutes

The OWNER'S REPRESENTATIVE will prepare and distribute copies to participants within seven (7) days of meeting. Participants shall report corrections and comments within ten (10) days of receipt of minutes.

1.02 PROGRESS MEETINGS

Progress Meetings will be held twice a month or as required by the progress of the Work.

A. Schedule

The OWNER'S REPRESENTATIVE will establish the meeting place, time and date, distribute agenda, notify participants and administer the meeting. The CONTRACTOR shall notify major Subcontractors.

B. Attendance

1. OWNER'S REPRESENTATIVE
2. CONTRACTOR
3. Subcontractor as appropriate to the agenda.
4. Suppliers as appropriate to the agenda.
5. Others

C. Agenda

1. Review minutes of previous meeting.

2. Review of work progress since previous meeting.

3. Review field observations, problems, and conflicts.

4. Review problems which impede Construction Schedules.

5. Review of offsite fabrication, delivery schedules.

6. Review corrective measures and procedures to regain projected schedule.

7. Review revisions to Construction Schedules.

8. Review plan progress, schedule, during succeeding Work period.

9. Review coordination of schedules.

10. Review submittal schedules; expedite as required.

11. Review maintenance of quality standards.

12. Review proposed changes for:

    - Effect on Construction Schedule and on completion date.

    - Effect on other Contracts of the Project.

13. Other business.

D. Minutes

The OWNER'S REPRESENTATIVE will prepare and distribute copies to participants and OWNER within seven (7) days of meeting for review at the next meeting.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01300
SUBMITTALS

PART I – GENERAL

1.01 CONSTRUCTION SCHEDULES

A. Progress Schedules

The CONTRACTOR shall submit Progress Schedules in accordance with the General Conditions and Section 01311 of the specifications.

B. Submittals Schedule

The CONTRACTOR shall submit two (2) copies of the Submittals Schedule indicating the individual items and submission dates to the OWNER'S REPRESENTATIVE within ten (10) working days after the Effective Date of the Agreement. Copies of this Schedule shall be made available by the CONTRACTOR for discussion during the preconstruction meeting.

C. Schedule of Values

The CONTRACTOR shall submit two (2) copies of Schedule of Values for the Work to the OWNER'S REPRESENTATIVE within ten (10) calendar days after the Effective Date of the Agreement. The Schedule of Values shall be submitted by the CONTRACTOR for discussion during the preconstruction meeting. The Schedule of Values shall be in accordance with the General Conditions and presented in sufficient detail to serve as the basis for payments during construction.

D. Staking Schedule

The CONTRACTOR shall submit two (2) copies of the Staking Schedule, in accordance with Section 01330 to the OWNER'S REPRESENTATIVE prior to mobilization. This Staking Schedule should be updated by the CONTRACTOR and submitted to the OWNER'S REPRESENTATIVE on a periodic basis.

1.02 APPLICATIONS FOR PAYMENT

The CONTRACTOR shall submit Applications for Payment to the OWNER'S REPRESENTATIVE in accordance with the provisions of the General Conditions. The CONTRACTOR shall submit a completed Application for Payment and Progress Schedule to the OWNER'S REPRESENTATIVE not more often than once per month. The OWNER'S REPRESENTATIVE will certify payments with the use of OWNER'S REPRESENTATIVES Certificate for Payment.

1.03 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. General

When used in the Contract Documents, the term "shop drawings" shall be considered to mean Contractor's Drawings for material and equipment which become an integral part of the Project. These drawings shall be complete and detailed. Shop drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, bills of material, wiring and control diagrams, and inspection and test reports including performance curves and certifications as applicable to the Work.

B. Shop Drawings

The shop drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to Contract Drawing Number and Detail, and Contract Specification Section and Page Number.

Shop drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, bills of material, wiring and control diagrams, and inspection and test reports including performance curves and certifications as applicable to the Work.

All details on shop drawings submitted for review shall show clearly the elevations of the various parts to the main members and lines of the structure and/or equipment, and where correct fabrication of the work depends upon field measurements, such measurements shall be made and noted on the shop drawings before being submitted for review.

C. Product Data

The product data shall be presented in a clear and thorough manner, identified the same as the shop drawings. Included with the information shall be performance characteristics and capacities depicting dimensions and clearances required. The manufacturers' standard schematic drawings and diagrams shall be modified to delete information which is not applicable to the Work. Manufacturers' standard information shall be supplemented to provide information specifically applicable to the Work.

D. Samples

The samples shall be of sufficient size and quantity to clearly illustrate functional characteristics of the product with integrally related parts and attachment devices depicting full range of color, texture and pattern. Mark all samples with labels that include project name, date and description.

E. Submission Requirements

The CONTRACTOR shall make submittals in accordance with the approved schedule, and in such sequence as to cause no delay in the Work or in the Work of any other CONTRACTOR. No damages will be awarded or extension of time granted due to the shop drawing and product data review process.

The CONTRACTOR shall submit an entire package of shop drawings and product data information for major items of Work so that the OWNER'S REPRESENTATIVE can review the package as a unit.

The number of submittals required shall be one (1) digital copy in pdf format, delivered by email or FTP as directed by the Owner or Engineer, including a stamped Contractor review cover, and (4) paper copies of all submittal materials, each accompanied by a stamped Contractor review cover sheet. All four paper copies will be retained by the Owner and Engineer. Submittals shall contain the following information:

- Shop Drawing Number, Title, Submittal Dates, Contractor's signature and review stamp.

- Field dimensions, clearly identified as such.

- Relation to adjacent or critical features of the Work or materials.

- Applicable standards, such as ASTM or Federal Specification Numbers.

- Identification of deviations from Contract Documents.

- Identification of revisions on resubmittals.

The CONTRACTOR'S stamp indicating as a minimum the Project Title, Date of Submission, Date of Previous Submission, and Contract Specification Section Reference shall be initialed or signed, certifying the review and approval of submittal per General Conditions, 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.

The OWNER'S REPRESENTATIVE shall affix a stamp and initials or signature and indicate confirmation or requirements for resubmittal. The OWNER'S REPRESENTATIVE shall return to the CONTRACTOR one (1) electronic copy of review comments and/or approvals for distribution or for resubmission.

F. Resubmission Requirements

The CONTRACTOR shall make all corrections or changes in the submittals required by the OWNER'S REPRESENTATIVE and resubmit. The CONTRACTOR shall indicate any changes which have been made other than those requested by the OWNER'S REPRESENTATIVE.

G. Variations

All items specified are not necessarily intended to be a manufacturer's standard product. Variations from specified items will be considered on an "or equal" basis. If submittals show variations from Contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in his letter of transmittal and on the shop drawings along with notification of his intent to seek contract adjustment. If acceptable, proper adjustment in the Contract shall be implemented where appropriate. If the Contractor fails to describe such variations he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such drawings have been reviewed. Variations submitted but not described may be cause for rejection. Any variations initiated by the Contractor will not be considered as an addition to the scope of work unless specifically noted and then approved as such in writing by the Engineer.

1.04 SPECIFICATION SECTION REQUIREMENTS

Miscellaneous schedules, field reports, test reports, affidavits, certificates, permits, agreements and other items identified in the Technical Specification Sections, or as requested by the OWNER'S REPRESENTATIVE shall be submitted to the OWNER'S REPRESENTATIVE in duplicate. As a minimum, these submittals should be identified with the Project Title, Date of Submission, and Contract Specification Section Reference.

1.05 MANUFACTURERS OPERATION AND MAINTENANCE DATA

The CONTRACTOR shall furnish one (1) electronic and four (4) paper copies of all operation and maintenance data required per the various Technical Specification Sections and as according to the requirements of the General Conditions. Prior to 80% completion of the Project, the CONTRACTOR shall have submitted one (1) acceptable copy to the OWNER'S REPRESENTATIVE for review.

The operation and maintenance data shall be bound in a suitable number of 3-inch or 4-inch, 3-ring hard cover binders. Permanently imprinted on the cover and side shall be the words Manufacturers Operation and Maintenance Data, Project Title, Location of the Project, and the Date. A Table of Contents shall be provided in the front of each binder to list the various sections of the Manual.

The information to be provided in each section for each piece of equipment and project component shall include, but not be limited to, detailed equipment drawings; sections cut through all of the major equipment and subassemblies; installation and operational procedures; complete wiring and piping schematics; lubrication materials and procedures; maintenance procedures; and parts lists complete enough to permit identification of parts by nomenclature, number and use.

At the front of each section a maintenance schedule shall be provided for each piece of equipment or system in the section. The schedule shall display the daily, weekly, monthly, semi-annual, annual or fraction thereof, lubrication and preventative maintenance required in order to meet warranty conditions and the manufacturer's recommendations for optimum performance and life of the unit or system. A common schedule format is to be developed and used for all of the sections. Photocopies or reproductions of the manufacturer's literature will not be accepted.

1.06 AUDIO-VIDEO ROUTE SURVEY

A Video Route survey is required for this project.

Audio-video survey to be on DVD suitable for recording and play-back on video color equipment.

All recording shall be done during times of good visibility. No recording shall be done during periods of visible precipitation, or when more than ten (10) percent of the ground area is covered with standing water, unless otherwise authorized by the OWNER.

All video shall be properly identified as to location, time, and date in a manner acceptable to the OWNER and the OWNER'S REPRESENTATIVE. A copy of the video recording shall be provided to the OWNER'S REPRESENTATIVE as a shop drawing submittal for approval prior to construction. Video recordings will be returned to the CONTRACTOR at the end of the warranty period, or following the resolution of any claims, whichever is longer.

To preclude the possibility of tampering or editing in any manner, all video recordings must, by electronic means, display continuously and simultaneously generated transparent digital information to include the date and time of recording, as well as the corresponding engineering stationing numbers. The date information will contain the month, day, and year. For example, 10/5/12, and be placed directly below the time information. The time information shall consist of hours, minutes, and seconds, separated by colons. For example 10:20:30. This transparent information will appear on the extreme upper left hand third of the screen.

The engineering stationing numbers, when applicable, must be continuous, accurate and correspond to the Project stationing and must include the Standard engineering symbols. For example, 14 + 84. This transparent information must appear in the lower half of the viewing screen.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01311
CONSTRUCTION SCHEDULE AND REPORTS

PART I – GENERAL

1.01 GENERAL REQUIREMENTS AND SCOPE

A. Pursuant to the General Conditions of this contract, the following additional scheduling requirements are a part of this Contract.

B. Work under this Section shall consist of furnishing a Construction Schedule showing in detail how the CONTRACTOR plans to execute and coordinate the Work. The Contract Schedule shall be based on and incorporate the Contract Milestone and Completion Dates specified in the Owner-Contractor Agreement and shall show the order in which the CONTRACTOR shall perform the Work, projected dates for the start and completion of separable portions of the work, and any other information concerning the CONTRACTOR'S Work scheduling as OWNER may request. The proposed Construction Schedule and related Schedule of Values must be submitted to the ENGINEER and the OWNER prior to mobilization of the site.

C. The Construction Schedule shall be in the form of a bar chart and shall consist of horizontal lines, or bars, plotted along a daily time scale. Each pay item designed in the CONTRACTOR'S Schedule of Values shall be denominated as a separate activity and represented by a horizontal bar or bars on the chart. The time-scale shall indicate all required Milestone and Completion Dates as set forth in the Owner-Contractor Agreement. The horizontal bar(s) shall indicate the start and finish dates as well as the total time period of performance for each pay item activity. The CONTRACTOR shall arrange the chart so as to show the pay item activities, the allotted timeline to fulfill each and every Milestone and Completion Date requirement. This Schedule must be submitted by the CONTRACTOR prior to commencement of work and award of contract.

D. Each Work item on the bar chart, as well as being correlated to the payment document, shall be broken into reasonable work segments/activities (where practicable) with individual starting and stopping dates. As a minimum, work shall be segmented to demonstrate its relationship to the various Milestone Dates, if any. The segmented Work activities shall be cost loaded to show their dollar value as part of the entire pay item. Activity titles shall be self-explanatory; abbreviations shall be shown in the legend.

E. If the CONTRACTOR should desire or intend to complete the work earlier than any required Milestone or Completion date, the OWNER or the ENGINEER shall not be liable to the CONTRACTOR for any costs or other damages should the CONTRACTOR be unable to complete the Work before such Milestone or Completion date. The duties, obligations and warranties of the OWNER to the CONTRACTOR shall be consistent with and applicable only to the completion of the Work on the Milestone and completion dates required in the Owner-Contractor Agreement, unless the OWNER, ENGINEER and CONTRACTOR otherwise agree in a written Change Order.

1.02 UPDATES AND REVISIONS

A. The chart shall be updated to show actual progress and the effect of modifications, delays and other events. A second bar for each work item, in a contrasting color or pattern, shall be drawn parallel to the proposed schedule to show actual progress and to forecast future progress. The actual start and stop dates shall be entered, as well as the actual dates of the Milestone events. Updates are to be submitted monthly to the ENGINEER with, and as part of, each payment request.

B. The updated Construction Schedule submitted by the CONTRACTOR shall not show a completion date later than the Contract Time, subject to any time extensions approved by the Owner; provided, however, that if the CONTRACTOR believes he is entitled to an extension of the Contract under the Contract Documents, the CONTRACTOR shall submit to the ENGINEER, the appropriate requests pursuant to General Conditions, including with each update, a separate schedule analysis (entitled "Requested Time Adjustment Schedule") indicating suggested adjustments in the Contract Time which should, in the opinion of the CONTRACTOR, be made by time extension, due to changes, delays or conditions occurring during the past month or previously, or which are expected or contemplated by the CONTRACTOR (whether such conditions are excusable under the Contract or are allegedly due to CONTRACTOR or OWNER fault); this separate schedule, if submitted, shall be accompanied or preceded by a formal time extension request as required by the Contract Documents and a detailed narrative justifying the time extension requested. To the extent any time extension requests are pending at the time of any update in the Construction Schedule, the "Requested Time Adjustment Schedule" shall be updated also each month, to reflect any adjustments made by the CONTRACTOR in the Construction Schedule, or any time extensions previously granted by the OWNER, and to reflect actual or expected progress. Neither the ENGINEER nor the OWNER shall have any obligation to consider any time extension request unless the requirements of the Contract Documents, and specifically, but not limited to, the requirements set forth in this paragraph, are complied with; and neither the ENGINEER nor the OWNER shall be responsible to the CONTRACTOR for any constructive acceleration due to failure of OWNER to grant time extensions under the Contract Documents should the CONTRACTOR fail to substantially comply with the submission requirements and the justification requirements of this CONTRACTOR for time extension requests. CONTRACTOR'S failure to perform in accordance with the Construction Schedule shall not be excused, nor be chargeable to the OWNER, nor the ENGINEER, because the CONTRACTOR has submitted time extension requests or the "Requested Time Adjustment Schedule."

C. Neither the updating of the CONTRACTOR'S work schedule nor the submission, updating, change or revision of any other report or schedule submitted to the OWNER by the CONTRACTOR nor review or nonobjection of the OWNER or ENGINEER of any such report or schedule shall have the effect of amending or modifying, in any way, the Contract Completion Date, Milestone Dates or of modifying or limiting, in any way, the CONTRACTOR'S obligations under this Contract.

D. All of the CONTRACTOR'S detailed calculations and documents supporting all schedules, reports, and forecasts shall be available to the OWNER and ENGINEER on request.

E. Each updated Construction Schedule submitted by the CONTRACTOR to the ENGINEER shall be accompanied by a narrative report which reflects the following:

1. Description of Work accomplished since submission of previous progress schedule;
2. Comparison of the actual status of the Work with the CONTRACTOR'S project schedule;
3. Status of equipment and material deliveries;
4. Personnel staffing schedule;
5. Causes of any delays;
6. Revision of schedules; and
7. Action proposed to restore schedule.

F. Pursuant to the General Conditions, should any of the conditions exist such that certain activities shown on the CONTRACTOR'S Construction Schedule fall behind schedule to the extent that any of the mandatory specific or milestone dates or completion dates are in

jeopardy, the CONTRACTOR shall be required to, at no extra cost to the OWNER, prepare and submit, to the ENGINEER, a supplementary Recovery Schedule, in a form and detail appropriate to the need, to explain and display how he intends to reschedule those activities to regain compliance with the Construction Schedule during the immediate subsequent pay period.

1.03 SCHEDULE OF OFF-SITE ACTIVITIES

A. The CONTRACTOR shall include in his Construction Schedule all procurements related activities which lead to the delivery of materials to the site in a timely manner. Upon written approval by the OWNER, these activities may be submitted as a separate Off-Site Activities Schedule, properly correlated to the Construction Schedule. The schedule of off-site activities shall include, but is not limited to, the following:

1. Dates for submittals, ordering, manufacturing, or fabricating and delivery of equipment and materials. Long lead items requiring more than one month between ordering and delivery to site shall be clearly noted;

2. All significant activities to be performed by the CONTRACTOR during the fabrication and erection/installation in a CONTRACTOR'S plant or on a job site, including materials/equipment purchasing, delivery; and

3. CONTRACTOR'S drawings and submittals to be prepared and submitted through the ENGINEER to the Owner for approval.

B. The CONTRACTOR shall be solely responsible for expediting the delivery of all materials to be furnished by him so that the construction progress shall be maintained according to the current schedule for the Work as approved by the ENGINEER.

C. The ENGINEER shall be advised in writing by the CONTRACTOR wherever it is anticipated or determined by the CONTRACTOR that the delivery date of any material and/or equipment furnished by the CONTRACTOR for installation will be later than the delivery dates shown on the schedule, subject to schedule updates.

D. Submittals, equipment orders and similar items are to be treated as schedule activities.

1.04 FLOAT TIME

A. Float or slack time is defined as the amount of time between the earliest start date and the latest start date or between the earliest finish date and the latest finish date of an activity on the Construction. Float or slack time is for the exclusive use and benefit of the OWNER. The CONTRACTOR acknowledges and agrees that actual delays, affecting activities containing float time, will not have any effect upon contract completion times, providing that the actual delay does not exceed the float time associated with those activities.

B. Extensions of time for performance as described in the Contract Documents will be granted only to the extent that time adjustment for the activity or activities affected by any condition or event which entitles the CONTRACTOR to a time extension exceed the total float or slack of the affected activity at the time of issuance of a Change Order or the commencement of any delay or condition for which an adjustment is warranted under the Contract Documents.

1.05 COORDINATION

A. The CONTRACTOR shall coordinate his work with that of other contractors and shall cooperate fully with the ENGINEER in maintaining orderly progress toward completion of the work as scheduled. The ENGINEER'S decisions regarding priority between the CONTRACTOR'S work and the work of other contractors at the site shall be final and shall not be cause for extra compensation or extension of time, except where extension of time is granted because of a delay for which CONTRACTOR is otherwise entitled to an extension of time under the Contract Documents.

B. The milestone dates referred to in the Contract Documents for delivery of OWNER direct-purchased equipment and materials and interface activities of other contractors on the site are based on dates set forth in separate contracts with the OWNER and represent the information available at this time.

C. Failure of OWNER direct-purchased equipment and materials to arrive as scheduled, or failure of other construction contractors to meet their schedule, shall not be justification for an extension of time, except where such failure causes, in the opinion of the ENGINEER, an unreasonable delay in the CONTRACTOR'S work, in which case the provisions of the General Conditions regarding extensions of time and extra work shall apply.

D. The CONTRACTOR shall keep himself, and his subcontractors, advised at all times during the course of the Work regarding delivery status of OWNER direct purchased equipment and materials and of the progress of construction work being performed under separate contracts.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01330
CONSTRUCTION STAKING

PART I – GENERAL

1.01 GENERAL REQUIREMENTS

A. Responsibility for Staking

The CONTRACTOR will set stakes and markers showing the locations of various parts of the Work as outlined herein. It shall be the responsibility of the CONTRACTOR to transfer surface line and grade for any other than normal surface open cut operations which the CONTRACTOR may conduct, and also for any operations where ordinary surface line and grade is not feasible.

1.02 RELOCATION AND RE-ESTABLISHMENT

A. Survey Control Points

The CONTRACTOR shall bear all expense involved in re-establishing and/or resetting any survey control point, land survey point or monument lost or disturbed during his construction operation. Such Work shall be done under the direct supervision of a State of Florida licensed land surveyor.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01380
CONSTRUCTION PHOTOGRAPHS

PART I – GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR shall employ a competent photographer to take construction record photographs prior to start of work and periodically during the course of the Work.

B. Related Requirements Described Elsewhere:

1. Section 01010: Summary of Work
2. Section 01300: Submittals

1.02 PHOTOGRAPHY REQUIRED

A. Photographs shall be taken at each of the major stages of construction and as directed by the ENGINEER.

B. Photographs may be taken by the CONTRACTOR's personnel but must be of professional quality as herein specified. Photographs which are deemed unsatisfactory will be rejected and retakes will be required.

C. Views Required

1. One (1) view of each activity as directed by the ENGINEER, up to a limit of thirty (30) activities photographed per month.

2. Five (5) views of overall Project site monthly, as directed by the ENGINEER.

3. Each side of each structure on site, if applicable, where construction activities are present monthly.

D. Reproduction

1. All photographs shall be provided in digital format on CD or DVD.

2. The photographer shall agree to furnish hard-copy prints to OWNER and the ENGINEER at commercial rates applicable at time of purchase.

1.03 COST OF PHOTOGRAPHY

A. The CONTRACTOR shall pay costs for specified photography and storage media. Parties requiring additional photography or prints will pay the photographer directly.

PART 2 – PRODUCTS

2.01 DIGITAL PRINTS

A. Photographs taken in accordance with this Section shall be furnished to the ENGINEER on two (2) sets of CDs or DVDs, cumulative of all photos to date, and attached with each pay request.

B. Each photograph shall be 1200x800 pixels, 360 DPI true color minimum resolution in JPEG file format.

C. Each photograph shall bear a date and time stamp.

D. A log, prepared in Microsoft Excel, shall be included on the CD or DVD. The log shall state the digital file name, date of photograph and orientation of view. Additional, pertinent comments may be placed on the log at the discretion of the CONTRACTOR.

2.02 HARD-COPY PRINTS

A. General

1. Hard-copy prints will not be provided unless specifically requested by the OWNER. The print requests shall be made as outlined in Article 1.02.E.2 of this Section.

B. Type of Print

1. Paper: Single weight, color print paper.
2. Finish: Smooth surface, glossy.
3. Size: 8 inch x 10 inch

C. Identify each print on back, listing

1. Name of project
2. Orientation of view
3. Date and time of exposure
4. Name and address of photographer
5. Photographer's numbered identification of exposure

PART 3 – EXECUTION

3.01 TECHNIQUE

A. Factual Presentation.

B. Correct exposure and focus.

1. High resolution and sharpness
2. Maximum depth-of-field
3. Minimum distortion

3.02 VIEWS REQUIRED

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

1. At successive periods of photography, take at least one photograph from the same overall view as previously photographed.

2. Consult with the ENGINEER at each period of photography for instructions concerning views required.

B. The photographer shall be escorted on the construction site at all times by the ENGINEER. The photographer shall comply with all directions given by the ENGINEER.

3.03 DELIVERY OF PRINTS

A. Deliver digital photographs on two (2) sets of CDs or DVDs to the ENGINEER to accompany each Application for Payment.

B. The CONTRACTOR shall store all photographs electronically for the project record file until the end of the project. A final, comprehensive CD or DVD of all photographs shall be delivered with Project Record Documents as specified in Section 01700.

END OF SECTION

SECTION 01400
QUALITY CONTROL SERVICES

PART I – GENERAL

1.01 RELATED DOCUMENTS

A. Drawing and general provisions of contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for quality control services.

B. Quality control services include inspections, tests and related actions including reports, performed by independent agencies, governing authorities, and the CONTRACTOR. They do not include Contract enforcement activities performed by the OWNER'S REPRESENTATIVE or the OWNER.

C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the CONTRACTOR of responsibility for compliance with Contract Document requirements.

1.03 RESPONSIBILITIES

A. CONTRACTOR Responsibilities: The CONTRACTOR shall provide inspections, tests and similar quality control services as summarized below or specified in individual Specification Sections and required by governing authorities, or are provided by another identified entity; these services include those specified to be performed by an independent agency and not by the CONTRACTOR. Costs for these services shall be included in the Contract Sum. The testing agency shall be subject to the approval of the OWNER.

1. The OWNER may elect to engage and pay for the services of an independent agency to perform inspections and tests specified as the OWNER'S responsibility, or at the discretion of the OWNER.

2. Where the OWNER has engaged a testing agency or other entity for testing and inspection of a part of the Work, and the CONTRACTOR is also required to engage an entity for the same or related element, the CONTRACTOR shall not employ the entity engaged by the OWNER, unless otherwise agreed in writing with the OWNER.

B. Retesting: The CONTRACTOR is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the CONTRACTOR'S responsibility.

1. Cost of retesting construction revised or replaced by the CONTRACTOR is the CONTRACTOR'S responsibility, where required tests were performed on original construction.

C. Associated Services: The CONTRACTOR shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:

1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.

2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.

3. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.

4. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.

5. Security and protection of samples and test equipment at the Project Site.

D. Duties of the Testing Agency: The independent testing agency engaged to perform inspections, samplings and testing of materials and construction specified in individual Specification Sections shall cooperate with the OWNER'S REPRESENTATIVE and CONTRACTOR in performance of its duties, and shall provide qualified personnel to perform required inspections and tests.

1. The agency shall notify the OWNER'S REPRESENTATIVE and CONTRACTOR promptly if irregularities or deficiencies observed in the Work during performance of its activities. The agency may not approve or accept any portion of the work.

2. The agency is not authorized to release, alter or enlarge requirements of the Contract Documents, or approved or accept any portion of the Work.

3. The agency shall not perform any duties of the CONTRACTOR.

E. Coordination: The CONTRACTOR and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition, the CONTRACTOR and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. The CONTRACTOR is responsible for scheduling times for inspections, tests, taking samples and similar activities.

1.04 SUBMITTALS

A. The independent testing agency shall submit a certified written report of each inspection, test or similar service, to the OWNER'S REPRESENTATIVE, in triplicate, and a copy of each inspection shall be sent to the OWNER.

1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.

2. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:

a. Date of issue.
b. Project title and number.
c. Name, address and telephone number of testing agency.
d. Dates and locations of samples and tests or inspections.

e. Names of individuals making the inspection or test.
f. Designation of the Work and test method.
g. Identification of product and Specification Section.
h. Complete inspection or test data.
i. Test results and an interpretation of test results.
j. Ambient conditions at the time of sample-taking and testing.
k. Comments or professional opinion as to whether inspection or testing Work complies with Contract Document requirements.
l. Name and signature of laboratory inspector.
m. Recommendations on retesting.

1.05 QUALITY ASSURANCE

A. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.

1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the State in which the Project is located.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 INSPECTION OF CONDITIONS

A. Installer's Inspection of Conditions: Require the installer of each major unit of work to inspect the substrate to receive work and conditions under which the work is to be performed. The installer shall report all unsatisfactory conditions in writing to the CONTRACTOR. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

B. Manufacturer's Instructions: Where installations include manufactured products, comply with the manufacturer's applicable instructions and recommendations for installation, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the Contract Documents.

C. Inspect each item of materials or equipment immediately prior to installation. Reject damaged and defective items.

D. Provide attachment and connection devices and methods for securing work. Secure work true to line and level, and within recognized industry tolerances. Allow for expansion and building movement. Provide uniform joint width in exposed work. Arrange joints in exposed work to obtain the best visual effect to the satisfaction and approval of the OWNER'S REPRESENTATIVE and the OWNER. Refer questionable visual-effect choices to the OWNER'S REPRESENTATIVE and the OWNER for final decision.

E. Recheck measurements and dimensions of the Work, as an integral step of starting each installation.

F. Install each unit-of-work during weather conditions and project status that will insure the best

possible results in coordination with the entire Work. Isolate each unit of work from incompatible work as necessary to prevent deterioration.

G. Coordinate enclosure of the Work with required inspections and tests, so as to minimize the necessity of uncovering work for that purpose.

H. Mounting Heights: Where mounting heights are not indicated, mount individual units of work at industry recognized standard mounting heights for the particular application indicated. Refer questionable mounting height choices to the Architect for final decision.

3.02 REPAIR AND PROTECTION

A. General: Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes.

B. Protect construction exposed by or for quality control service activities, and protect repaired construction.

C. Repair and protection is the CONTRACTOR'S responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION

SECTION 01500
CONSTRUCTION FACILITIES AND TEMPORARY CONTROL

PART I – GENERAL

1.01 LAND FOR CONTRACTOR'S USE

A. Site Access and Parking

The CONTRACTOR shall locate roads, drives, walks and parking facilities to provide uninterrupted access to construction offices, mobilization, work, storage areas, and other areas required for execution of the Contract.

The CONTRACTOR shall maintain driveways a minimum of 15 feet wide between and around combustible materials in storage and mobilization areas.

The CONTRACTOR shall maintain traffic areas as free as possible of excavated materials, construction equipment, products, and debris.

The CONTRACTOR shall not utilize existing parking facilities for construction personnel or for the CONTRACTOR'S vehicles or equipment, unless written permission from the OWNER of the parking facility is obtained.

B. Trucking Route and Public Road Maintenance

Prior to the start of construction, the CONTRACTOR shall submit for review a schedule and list indicating the streets and roads within the municipality that his equipment will use off the Project site.

The CONTRACTOR shall comply with all safety requirements, weight restrictions and speed limits.

All gravel and dirt roads or streets used shall be maintained by grading, placing dust palliatives and maintenance gravel in sufficient quantities to eliminate dust and maintain traffic.

Paved streets shall be maintained in a reasonable state of cleanliness and the CONTRACTOR shall remove accumulations of debris, dirt or mud caused by his operations. This shall be done at the close of each days operation or when requested by the OWNER'S REPRESENTATIVE.

In order to insure adequate street maintenance as outlined above, the CONTRACTOR may be required to deposit a cash Road Protection Bond with the Agency having jurisdiction. This Bond, if required, will be held in escrow until final release is given by the Agency having jurisdiction. In the event the CONTRACTOR fails or neglects to maintain the streets to the satisfaction of the Agency having jurisdiction, the Agency having jurisdiction shall have the required maintenance work done and the cost incurred shall be deducted from the Road Protection Bond. At the completion of the Project, the Agency having jurisdiction shall return the Road Protection Bond less any monies expended by the Agency having jurisdiction and shall render to the CONTRACTOR an accounting of all monies so expended.

C. Private or Public Roads, Sidewalks and Parking Areas

The CONTRACTOR shall at all times provide emergency access to property in the vicinity of the construction for police and fire equipment, ambulances or other emergency vehicles to protect life, health and property.

Where public roads, driveways, parking areas and sidewalks are encountered throughout the community, the CONTRACTOR shall maintain those portions affected by the construction operations in a passable condition until such time as final restoration of these improvements can be made as herein specified. If, in the opinion of the OWNER'S REPRESENTATIVE, the public safety is in danger or the necessity exists for maintaining traffic, he may direct that backfilling be completed immediately. In the event that the necessary backfill material and equipment are not available when direction is given for immediate backfill, the trench shall be backfilled with native material to provide for the necessary maintenance of traffic and safety; however, the native material shall be removed within 48 hours and the trench properly backfilled as herein specified.

Where private roads are encountered throughout the community, the CONTRACTOR shall maintain those portions affected by its construction operations in a passable condition. These roads shall be maintained by the use of crushed shell, crushed stone, slag or compacted earth as required. Upon completion of the construction activities, the CONTRACTOR shall shape and regrade these roads leaving them in a condition adequate for normal travel.

1.02 TRAFFIC MAINTENANCE AND CONTROL

A. Road Closing

No street, road or section thereof shall be closed to through traffic unless otherwise provided for on the Plans, Specifications, or authorized by the agency with jurisdiction over the roads. Prior to closing a street, road, or section thereof, the CONTRACTOR shall provide the OWNER'S REPRESENTATIVE with a copy of a detour Plan approved by the agency having jurisdiction over the roads.

In the event roads or streets are to be closed, the CONTRACTOR shall notify the local fire department, police department, local road authority, ambulance and emergency services, Department of Public Works, U.S. Postal Department, public transit authority and public school system daily as to what streets will be partly blocked or closed, the length of time the streets will be blocked or closed and estimated when the streets will be reopened to traffic. The CONTRACTOR shall designate one responsible employee to carry out the requirements of this condition.

B. Maintaining Traffic

The CONTRACTOR shall provide access for local traffic to property along the Project by means of temporary roads, drives, culverts or other means approved by the OWNER'S REPRESENTATIVE. The CONTRACTOR shall grade, add surfacing materials, and dust palliatives to such temporary roads and drives as necessary for the proper maintenance of traffic.

Where the shoulder is used to maintain traffic, the shoulder shall be graded, surfaced, treated for dust, constructed, or reconstructed, as specified herein or as shown on the Plans. If the construction work is suspended due to weather conditions or for any other reason, sufficient labor, materials and equipment shall be ready for immediate use at all times for the proper maintenance of traffic. Surfacing materials and dust palliatives shall be applied at

such times and locations and in such amounts as directed by the OWNER'S REPRESENTATIVE.

Where shoulders are low, high, soft or rough, adequate provisions shall be taken to inform and protect the traveling public by means such as construction warning signs, barricades, lighted devices, etc. Such shoulder hazards shall be eliminated as soon as practicable.

The CONTRACTOR shall furnish, erect and maintain all signs, barricades, lights, traffic regulators, in accordance with the requirements of the current Manual of Uniform Traffic Control Devices, and all flagmen and watchmen or uniformed officers as are necessary to maintain and safeguard traffic along the entire Project. Failure to comply with these requirements may be cause to issue a stop Work order, which shall remain in effect until all necessary devices are in place and operational. The issuance of a stop Work order shall not be reason for granting additional compensation or an extension to the Contract time.

C. Existing Signs

No stop sign, traffic control or warning device shall be taken down until the agency having jurisdiction over the roads has been notified and arrangements for the immediate reinstallation has been made. The CONTRACTOR shall provide temporary signs, traffic control devices, warning devices, or watchmen continuously from the time the item is removed until it is reinstalled. All signs removed shall be replaced with signs meeting requirements of the agency having jurisdiction over the roads.

1.03 TEMPORARY UTILITY SERVICES

A. Electricity and Lighting

The CONTRACTOR shall be responsible for and pay all costs for the installation and removal of circuit and branch wiring, with area distribution boxes located so that power and lighting is available throughout the construction by the use of construction-type power cords and shall pay all costs of electrical power used.

Electrical wiring and distribution shall conform to the National Electrical Code as adopted by the State of Florida.

B. Telephone

The CONTRACTOR shall pay all costs for installation, maintenance and removal, and service charges for local calls to provide service for his construction site office as well as for the OWNER'S REPRESENTATIVES field office. Toll charges for calls relating to Project business shall be at the CONTRACTOR'S expense.

C. Use of Water

The CONTRACTOR shall acquire any and all permits, post any bonds and pay all fees required by the local agency having jurisdiction prior to using any hydrant as the source of water. The Owner will furnish potable water for pressure testing and disinfection.

D. Sanitary Provisions

The CONTRACTOR shall be responsible for installation, maintenance and removal of temporary sanitary facilities for use of construction personnel and OWNER'S REPRESENTATIVE. All rules and regulations of the State and local health officials shall be observed, with precautions taken to avoid creating unsanitary conditions.

1.04 FIELD OFFICE

A field office will not be required for this project.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01540
HURRICANE PREPAREDNESS

PART I – GENERAL

1.01 REQUIREMENTS

A. The CONTRACTOR is responsible for having plans for protection of the work site during hurricanes and shall prepare and submit a Hurricane Preparedness Plan prior to any construction activity and mobilization.

B. The Hurricane Preparedness Plan shall be submitted at the Preconstruction Meeting for approval and shall include the following:

1. Items and equipment that must be removed from the work site.

2. Methods and materials that will be utilized to secure the materials and work site.

3. Methods and materials that will be utilized to protect uncompleted work items.

4. Plans for evacuation of staff from the work site.

5. Plans for monitoring local weather conditions, National Weather Service weather reports, and local emergency management instructions.

6. Items that must commence at the time of hurricane water in order to be completed and their anticipated duration.

C. The CONTRACTOR shall immediately mobilize his work forces when a Hurricane Watch is issued and they shall commence with those items in the Hurricane Preparedness Plan required to provide hurricane evacuation before a Hurricane Warning is issues.

D. When the National Weather Service issues a Hurricane Watch for Sarasota County or adjoining counties, the Contractor shall immediately implement the Hurricane Preparedness plan.

E. The Cost of preparing and implementing the Hurricane Preparedness Plan shall be the responsibility of the CONTRACTOR.

F. The CONTRACTOR shall follow all instructions from local emergency management officials regarding evacuation of the work site.

1.02 SUBMITTALS

A. Submittal of the Hurricane Preparedness Plan shall be in accordance with Section 01300.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01568
TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART I – GENERAL

1.01 DESCRIPTION

A. At the Preconstruction Meeting, provide the OWNER with the CONTRACTOR'S plan to prevent, control, and reduce erosion and water pollution, meeting the requirements and special conditions or any required permits authorizing project construction.

B. If a National Pollutant Discharge Elimination System (NPDES) permit is issued or approved by the Florida Department of Environmental Protection, the CONTRACTOR'S plan shall be prepared as a part of the Approved Stormwater Pollution Prevention plan (SWPPP) as described in Section 01061.

1.02 SCOPE OF WORK

A. The Work specified in this Section consists of planning, designing, providing, maintaining and removing temporary erosion and sedimentation controls as required by Rules and Regulations and permit conditions.

B. Temporary erosion controls include, but are not limited to, grassing, mulching, setting, watering and reseeding on-site surfaces and soil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the OWNER.

C. Temporary sedimentation controls include, but are not limited to, silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the OWNER.

D. The CONTRACTOR is responsible for providing effective temporary erosion and sediment control measures during construction or until final controls become effective.

1.03 RELATED WORK DESCRIBED ELSEWHERE

A. Section 01060: Regulatory Requirements and Permits
B. Section 01061: SWPPP and NPDES Requirements
C. Section 02200: General Earthwork

1.04 QUALITY ASSURANCE

A. Erosion and sedimentation control measures shall be in compliance with the best management practices as outlined in the Florida Stormwater, Erosion, and Sedimentation Control Inspectors Manual. 2005. Florida Department of Environmental Protection and Florida Department of Transportation, as may be amended and as required by Chapter 62-25, Florida Administrative Code, as may be amended.

B. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction and Roadway and Traffic Design Standards, latest editions:

1. Index No. 102 - Baled Hay or Straw Barriers and Silt Fences

2. Index No. 103 - Turbidity Barriers

3. Specification 300 - Prime and Tack Coats for Base Courses

PART 2 – PRODUCTS

2.01 SEDIMENTATION CONTROL

A. Bales shall be clean, seed-free cereal hay type.

B. Netting shall be fabricated of material acceptable to the OWNER.

C. Filter stone shall be crushed stone which conforms to Florida Department of Transportation (FDOT) specifications.

D. Concrete block shall be hollow, non-load bearing type.

E. Concrete shall be exterior grade not less than 1-inch thick.

PART 3 – EXECUTION

3.01 POLLUTION PREVENTION PLAN

A. The SWPPP will include this erosion control plan and all additional measure that will be employed to dispose of, control, or prevent the discharge of solid, hazardous, and sanitary wastes to waters of the U.S.

B. The OWNER and ENGINEER will review and approve the CONTRACTOR'S part of the SWPPP, including required signed certification statements, before construction activities begin.

C. Failure of the CONTRACTOR to sign any required documents or certification statements will be considered a default of the Contract.

D. Any earth disturbing activities performed without the required signed documents or certification statements may be considered a violation of the Clean Water Act by the EPA.

E. When a SWPPP is required, prepare the erosion control plan in accordance with the sequence of operations and present in the NPDES Stormwater Pollution Prevention Plan required format provided by the FDEP. The erosion control plan shall describe, but not be limited to the following items or activities:

1. For each phase of construction operations or activities, supply the following information:

a. Locations of all erosion control devices
b. Types of all erosion control devices
c. Estimated time erosion control devices will be in operation
d. Monitoring schedules for maintenance of erosion control devices

e. Methods of maintaining erosion control devices
f. Containment or removal methods for pollutants or hazardous wastes

2. The name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.

3.02 SEDIMENTATION CONTROL

Install and maintain silt dams, traps, barriers, and appurtenances as shown on the approved descriptions and working drawings. Hay bales which deteriorate and filter stone which is dislodged shall be replaced.

3.03 PERFORMANCE

A. Should any of the temporary erosion and sediment control measures employed by the CONTRACTOR fail to produce results which comply with the requirements of the State of Florida, the OWNER or ENGINEER, the CONTRACTOR shall immediately take whatever steps are necessary to correct the deficiency at his own expense.

B. The CONTRACTOR shall comply with the Stormwater Pollution Prevention Plan provided in this section and all NPDES records shall be kept on-site and available for inspection if required.

END OF SECTION

SECTION 01600
MATERIAL AND EQUIPMENT

PART I – GENERAL

1.01 TRANSPORTATION AND HANDLING

A. Transportation

The CONTRACTOR shall provide for expeditious transportation and delivery of materials and equipment to the Project site in an undamaged condition and on a schedule to avoid delay of the Work. Materials and equipment shall be delivered in original containers or packaging with identifying labels intact and legible.

B. Handling

The CONTRACTOR shall provide equipment and personnel at the site to unload and handle materials and equipment in a manner to avoid damage. Materials and equipment shall be handled only at designated lifting points by methods to prevent bending or over stressing.

1.02 STORAGE AND PROTECTION

A. Storage

The CONTRACTOR shall store materials and equipment immediately on delivery, and protect it until installed in the Work.

Materials shall not be stored in preserve areas of existing vegetation that is to remain.

Products subject to damage by elements shall be stored in weather tight enclosures with temperature and humidity ranges as required by manufacturers instructions.

Loose granular materials shall be stored on solid surfaces to prevent mixing with foreign matter.

The place of storage shall be located so as to minimize interference with traffic and to provide easy access for inspection. No material shall be stored closer than five (5) feet to the edge of a pavement or traveled way open to the public.

Materials that have been stored shall be subject to retest and shall meet the requirements of their respective specifications at the time they are to be used in the Work.

1.03 MANUFACTURERS INSTRUCTIONS

When Contract Documents require that installation of Work shall comply with manufacturer’s instructions, the CONTRACTOR shall obtain and distribute copies of such instructions to parties involved in the installation including two copies to the OWNER'S REPRESENTATIVE. The CONTRACTOR shall handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with OWNER'S REPRESENTATIVE for further instructions.

1.04 SUBSTITUTIONS AND PRODUCT OPTIONS

A. Products List

Within four (4) days of request, the CONTRACTOR shall submit a complete list of major products proposed to be used, with the name of the manufacturer and the installing subcontractor, if applicable, to the OWNER'S REPRESENTATIVE.

B. CONTRACTOR'S Product Options

1. For products specified only by reference standard, the CONTRACTOR may, with OWNER approval, select any product meeting that standard. An item may be considered equal to the item so named or described if, in the opinion of the OWNER and OWNER'S REPRESENTATIVE:

   a. It is at least equal in quality, durability, appearance, strength, and design;
   b. It will perform at least equally the specific function imposed by the general design for the work being contracted for or the material being purchased; and
   c. It conforms substantially, even with deviations, to the referenced standards.

   Approval by the OWNER and the OWNER'S REPRESENTATIVE will be granted based upon considerations of quality, workmanship, economy of operation, suitability for the purpose intended, and acceptability for use on the Project.

2. For products specified by naming several products or manufacturers the CONTRACTOR shall select any one (1) of the products or manufacturers named, which complies with the specifications.

3. For products specified by naming one (1) or more products or manufacturers and or equal, the CONTRACTOR must submit a Substitution Request Form for any product or manufacturer not specifically named, in accordance with the General Conditions.

4. For products specified by naming only one (1) product and manufacturer, there is no option.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01700
PROJECT CLOSEOUT

PART I – GENERAL

1.01 CLEANING

The CONTRACTOR shall perform periodic cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and wind-blown debris, resulting from construction operations. Waste material, debris and rubbish shall be periodically removed from the Site and disposed of at legal disposal areas away from the Site. Prior to OWNER acceptance the CONTRACTOR shall conduct an inspection of sight-exposed interior and exterior surfaces, and all Work areas, to verify that the entire Work is clean. The CONTRACTOR shall broom clean exterior paved surfaces and rake clean other exterior surfaces of the site.

1.02 PROJECT RECORD DOCUMENTS

The CONTRACTOR shall deliver one (1) copy of all Specifications, Addenda, Shop Drawings and Samples, annotated to show all changes made during the construction process, to the OWNER'S REPRESENTATIVE upon completion of the Work. Submittal of the Record Documents shall be made with a transmittal letter containing:

- Date
- Project Title and Number
- CONTRACTOR'S Name and Address
- Title and Number of each Record Document
- Certification that each Document as submitted is complete and accurate
- Documents shall be submitted in good order and in a legible condition.

1.03 RECORD DRAWINGS

Upon completion of the project, the CONTRACTOR shall provide the DESIGN PROFESSIONAL with a complete set of record drawings. Any changes shall be clearly marked in ink on reproducibles provided by the DESIGN PROFESSIONAL. This is the responsibility of the CONTRACTOR and shall not be construed to be the responsibility of any other party.

1.04 OPERATION AND MAINTENANCE DATA

Prior to final inspection or acceptance, the CONTRACTOR shall fully instruct the OWNER'S designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems specified. Operation and maintenance data required by the individual Specification sections and the manufacturers operation and maintenance data required in Section 01300, Submittals, shall constitute the basis of such instruction.

1.05 SCHEDULING

The CONTRACTOR shall coordinate efforts between the OWNER'S REPRESENTATIVE, any equipment manufacturers, subcontractors and governing agencies in the scheduling of required close-out procedures

1.06 START UP

The CONTRACTOR shall coordinate efforts between the OWNER, OWNER'S REPRESENTATIVE, DESIGN PROFESSIONAL, any equipment manufacturers, subcontractors and governing agencies in

the start up of applicable portions of the Work.

1.07 SUBSTANTIAL COMPLETION

Certification that the Work is substantially complete shall be in accordance with the General Conditions.

1.08 FINAL PAYMENT AND ACCEPTANCE

The final inspection, final application for payment and acceptance shall be in accordance with the General Conditions.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01710
CLEANING

PART I – GENERAL

1.01 REQUIREMENTS

A. The CONTRACTOR shall execute cleaning~~,~~ during progress of the Work~~,~~ and at completion of the Work, as required by the General Conditions and these specifications.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. All applicable sections of the Specifications

B. General Conditions

1.03 DISPOSAL REQUIREMENTS

A. The CONTRACTOR shall conduct its cleaning and disposal operations to comply with all applicable codes, ordinances, regulations, and anti-pollution laws.

PART 2 – PRODUCTS

2.01 MATERIALS

A. The CONTRACTOR shall use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

PART 3 – EXECUTION

3.01 DURING CONSTRUCTION

A. The CONTRACTOR shall execute cleaning as determined necessary by the ENGINEER or OWNER to keep the Work, the site and adjacent properties free from accumulation of waste material, rubbish and windblown debris, resulting from Construction Work. Site cleaning shall be performed not less than weekly.

B. The CONTRACTOR shall provide on-site containers for the collection of waste materials, debris and rubbish.

C. The CONTRACTOR shall remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

3.02 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.

3.03 FINAL CLEANING

A. Employ skilled workmen for final cleaning.

B. Power brush clean paved roadways.

C. Remove all trash and debris in roadways, sidewalk, and landscape areas

D. Broom clean sidewalk surfaces, power clean if determined necessary by ENGINEER; rake clean other surfaces of the project area.

E. Prior to final completion or OWNER occupancy, CONTRACTOR 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.

3.04 MEASUREMENT AND 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 Item 1 - Mobilization.

END OF SECTION

SECTION 02100
CLEARING AND GRUBBING

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes all clearing and grubbing Work indicated on the Plans and as required, complete with cutting and removal of trees, shrubs, vegetation, stumps, logs, brush, roots and undergrowth, and disposal of materials.

B. Related Work Specified Elsewhere

1. Measurement and Payment: Section 01025

2. General Earthwork: Section 02200

3. Site Grading: Section 02215

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 EXECUTION OF WORK

A. General

1. Areas designated for improvements on the Plans shall be cleared of all trees, shrubs, vegetation, stumps, logs, brush, roots, buildings, pavement other than concrete, and debris.

2. Clearing and Removal

Within areas for roadways, sidewalks, and parking areas where the finished grade is five (5) feet or less in height above the existing ground, trees, stumps, and roots shall be removed to a depth of not less than 12 inches below the existing ground. Within areas for roadways sidewalks, and parking areas, where the finished grade is more than five (5) feet in height above existing ground, trees and stumps shall be cut off flush with the existing ground surface. For embankment areas outside of the roadways, sidewalks, and parking areas, trees and stumps shall be cut off flush with the existing ground surface, or as indicated on the Plans or as directed by the OWNER'S REPRESENTATIVE.

Within areas designated for a building pad the trees, stumps, roots, vegetation and other debris shall be removed completely.

3. Removal of Trees, Stumps, and Other Vegetation

Where trees cannot be felled without danger to traffic or injury to other trees, structures or property, they shall be cut down in sections. The removal of stumps and roots may be accomplished by the use of a shredding machine meeting the approval of the OWNER'S REPRESENTATIVE.

All logs, stumps, poles, brush, and other unsatisfactory material occurring in the Contract Limits shall be removed and shall be disposed of by the CONTRACTOR. When material is disposed of outside of the Contract Limits, disposal shall be as specified in Section 02200, General Earthwork.

Burial of materials is generally not permitted. The burial of trees, stumps and other vegetation will be permitted, only if disposal areas are indicated on the Plans or directed by the OWNER'S REPRESENTATIVE. If trees and stumps are buried in these areas, they shall have a minimum cover of two (2) feet.

4. Holes and Trenches

All holes and trenches remaining after the grubbing operation in embankment areas shall have the sides broken down or leveled, and shall be refilled with acceptable material. The material shall be moistened and properly compacted in layers by tampers or rollers to the density required under roadways, parking areas, and other special areas, as directed by the OWNER'S REPRESENTATIVE. The same construction procedure shall be applied to all holes and trenches remaining in excavation areas where the depth of holes exceeds the depth of proposed excavation.

END OF SECTION

SECTION 02140
DEWATERING DURING CONSTRUCTION

PART I – GENERAL

1.01 DESCRIPTION

A. Scope of Work:

The work to be performed under this section shall include the design and installation of a temporary well point system until completion of construction to dewater subsurface waters from structures and piping as required. The CONTRACTOR shall be responsible for all permitting activities, including permit fees, associated with obtaining applicable permits from the State Water Management District having jurisdiction over the installation and operation of the dewatering systems.

B. Related Work Described Elsewhere:

1. Trenching, Backfilling and Compacting: Section 02226.

C. General Design

1. Storm structures, water pipes, sanitary pipes, sanitary structures, and building foundations may require dewatering. It is the CONTRACTOR'S responsibility to determine extent of dewatering area and requirements for construction.

1.02 QUALITY ASSURANCE

A. Qualifications: The temporary dewatering system shall be designed by a firm who regularly engages in the design of dewatering systems and who is fully experienced, reputable, and qualified in the design of such dewatering systems. The firm shall have a successful record of operation for a minimum of five (5) years prior to bid date. The design firm shall supply the OWNER'S REPRESENTATIVE with previous installation details of at least three (3) successful dewatering operations of a similar nature in the State of Florida.

B. In lieu of experience, the dewatering firm shall provide a performance and warranty bond for 1.5 times the total installed cost of the temporary dewatering system. This bond shall be executed prior to award and/or contract execution.

C. Standards: The dewatering of any excavation areas and the disposal of water during construction shall be in strict accordance with all local and state government rules and regulations. If a consumptive use permit is required by local water management district, the CONTRACTOR shall be responsible for obtaining said permit.

1.03 SUBMITTALS

A. Materials and Shop Drawings: Shop drawings required to establish compliance with the Specifications shall be submitted in accordance with the provisions of Section 01300: Shop Drawings, Working Drawings and Samples. Submittals shall include at a minimum the following:

1. Design Notes and Drawings.
2. Descriptive literature of temporary dewatering system.
3. Layout of all piping involved.

4. Observation well locations.
5. Bill of materials.

1.04 CRITERIA

A. The wellpoint system shall be developed to the point that is capable of dewatering such that pipe can be laid and compacted satisfactorily as shown on the Drawings. Each wellpoint system shall be capable of dewatering and maintaining groundwater levels at the respective structures or pipelines. Observation wells shall be constructed for the purpose of testing each system. Observation wells shall be required for the construction of structures, or as determined by the CONTRACTOR's Geotechnical Engineer.

B. Observation Wells:

1. Prior to excavation, the CONTRACTOR shall install groundwater observation wells at locations as directed by the CONTRACTOR'S Geotechnical Engineer, who is registered in the State of Florida and as approved by the OWNER'S REPRESENTATIVE adjacent to structures under construction for the purpose of measuring water levels during excavations. The observation well shall consist of screen, casing and cap of approved size and material of construction. The observation well shall be placed in a 2 1/2-inch bore hole which shall be carried to an elevation at least to final bottom grade of structure. The annular space surrounding the intake point and the riser pipe shall be sealed in such a way as to prevent infiltration from surface water. The observation well shall be developed in such a manner as to ensure proper indication of subsurface water levels adjacent to the well.

2. The CONTRACTOR shall be responsible for maintaining the observation wells and for observing and recording the elevation of groundwater in them until adjacent structure of utilities are completed and backfilled. Each observation well shall be observed and recorded daily. Measurements shall be supplied daily to the OWNER'S REPRESENTATIVE. The OWNER'S REPRESENTATIVE may require that the observation wells reflect true groundwater levels by adding water to the well, recording the drop in the level from the time the water was added. Any plugged observation well shall be redeveloped if necessary to indicate true groundwater levels.

3. Observation wells shall be abandoned when directed by the OWNER'S REPRESENTATIVE, and in a manner acceptable to the OWNER'S REPRESENTATIVE, and applicable regulatory agencies.

1.05 PUMPING AND DRAINAGE

A. The CONTRACTOR shall at all times during construction provide and maintain proper equipment and facilities to remove all water entering excavations, and shall keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition until the fills, structures or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural levels. The CONTRACTOR shall submit a plan for dewatering systems to the OWNER'S REPRESENTATIVE for review prior to commencing work. The dewatering system installed shall be in conformity with overall construction plan, and certification of this shall be provided by a Geotechnical Engineer. The Geotechnical Engineer shall be required to monitor the performance of the dewatering systems during the progress of the work and require such modifications as may be required to assure that the systems are performing satisfactorily.

B. Dewatering shall at all times be conducted in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation and to preserve the integrity of adjacent structures. As a minimum, the water level shall be two (2) feet below the trench or structures bottom. Well or sump installations shall be constructed with proper sand filters to prevent drawing of finer grained soil from the surrounding ground. To minimize consolidation settlement of soils below surrounding existing structures, a recharge system may be required to maintain ground water levels to prevent any consolidation of soils under surrounding structures.

C. Water entering the excavation from surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to sumps, and pumped from the excavation to maintain a bottom free from standing water.

D. The CONTRACTOR shall take all additional precautions or prevent uplift of any structure during construction.

E. The conveying of water in open ditches or trenches will not be allowed. Permission to use any storm sewers, or drains, for water disposal purposes shall be obtained from the controlling authority. Any requirements and costs for such use shall be the responsibility of the CONTRACTOR. However, the CONTRACTOR shall not cause flooding by overloading or blocking up the flow in the drainage facilities, and the CONTRACTOR shall leave the facilities unrestricted and as clean as originally found. Any damage to facilities shall be repaired or restored at no cost to the OWNER.

F. Flotation shall be prevented by the CONTRACTOR by maintaining a positive and continuous operation of the dewatering system. The CONTRACTOR shall be fully responsible and liable for all damages which may result from failure of this system.

G. Removal of dewatering equipment shall be accomplished after the CONTRACTOR and the OWNER'S REPRESENTATIVE agree that the system is no longer required; the material and equipment constituting the system shall be removed by the CONTRACTOR.

H. This project is within a public wellfield and therefore special consideration should be made to insure that all necessary precautions to preclude the accidental discharge of fuel, oil, etc. in order to prevent adverse effects on groundwater or receiving water quality.

PART 2 – PRODUCTS

2.01 GENERAL

A. The equipment specified herein shall be standard dewatering equipment of proven ability as designed, manufactured and installed by firms having experience in the design and production of such equipment. The equipment furnished shall be designed, constructed and installed in accordance with the best practices and methods.

B. The CONTRACTOR shall be required to monitor the performance of the dewatering system during the progress of the work and require such modifications as may be required to assure that the systems will perform satisfactorily. The dewatering system shall be designed in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils and to preserve the integrity of adjacent structures.

C. The CONTRACTOR shall engage a Geotechnical Engineer registered in the State of Florida, to design the temporary dewatering system for all structures. The CONTRACTOR shall submit a conceptual plan for the dewatering system prior to commencing work. The dewatering system installed shall be in conformity with the overall construction plan and

certification of this shall be provided by the Geotechnical Engineer. The Geotechnical Engineer shall be required to monitor the performance of the dewatering system at the CONTRACTOR'S expense during the progress of the work and require such modifications as may be required to assure that the systems will perform satisfactorily. Dewatering system shall be designed in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at the proposed structures or utilities and to preserve the integrity of any adjacent structures.

PART 3 – EXECUTION

3.01 PREPARATION

The CONTRACTOR shall understand where existing utilities exist prior to constructing dewatering system. All necessary precautions should be taken to preserve existing utilities to remain in service during construction.

3.02 INSTALLATION

A. Dewatering: The CONTRACTOR shall install a temporary wellpoint dewatering system for the removal of subsurface water encountered during construction of the proposed structures.

B. Consumptive Use Permit (CUP) or Water Use Permit (WUP): If pumping requirements exceed certain limits, the CONTRACTOR shall pay for and obtain a CUP or WUP from the local water management district for such pumped volumes.

3.03 INSPECTION AND TESTING

A. The CONTRACTOR'S Geotechnical Engineer shall be required to assure that the dewatering system is operating properly.

B. The CONTRACTOR'S Geotechnical Engineer shall monitor the performance and instruct any adjustment to the CONTRACTOR during construction.

3.04 PROTECTION AND SITE CLEAN-UP

A. At all times during the progress of the Work the Contractor shall use all reasonable precautions to prevent either tampering with the wellpoints or the entrance of foreign material.

B. Immediately upon completion of the wellpoint system, the Contractor shall remove all of their equipment, materials, and supplies from the site of the work, remove all surplus materials and debris, fill in all holes or excavations, and grade the site to elevations of the surface levels which existed before work started. The site shall be thoroughly cleaned and approved by the OWNER'S REPRESENTATIVE.

END OF SECTION

SECTION 02200
GENERAL EARTHWORK

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes general earthwork complete with: preserving topsoil; reimbursement for crop damage; removal and disposal of structures and obstructions; protection of existing sewers; tiles and mains; protection of existing building and improvements; protection of trees and other types of vegetation; protection of utility lines; requirements for pavement replacement; restoration of driveways and parking areas; restoration of sidewalks; restoration of lawns and disturbed areas; soil erosion and sedimentation control; and removal, transportation, and disposal of excess excavation.

B. Related Work Specified Elsewhere

1. Dewatering: Section 02140

1.02 QUALITY ASSURANCE

A. Reference Standards

Unless otherwise specified, the Work for this Section shall conform to the applicable portions of the following Standard Specifications:

- FDOT- Florida Department of Transportation
- Local/Regional Water Management Districts

B. Requirements of Regulatory Agencies

The CONTRACTOR, at his expense, shall prepare all plans, obtain all approvals, secure all permits, and post all bonds or deposits required to comply with 2.01 Florida Environmental Land and Water Management Act of 1972 (380.012 F.S. et seq.) and related statutes.

1.03 SUBMITTALS

A. Reports

1. Written permission for the use of all disposal and borrow sites shall be obtained and copies shall be furnished to the OWNER'S REPRESENTATIVE.

1.04 JOB CONDITIONS

A. Protection

1. Protection of Plant Life

All trees, shrubs, and other types of vegetation not within the limits of the Work or not designated on the Plans or by the OWNER'S REPRESENTATIVE to be removed, shall be carefully protected from damage or injury during the various construction operations. Any tree, shrub or other type of vegetation not designated

to be removed but which is damaged by the CONTRACTOR'S operation shall be repaired or replaced by the CONTRACTOR, at his expense, as directed by the OWNER'S REPRESENTATIVE.

2. Protection of Existing Structures and Improvements

All existing culverts, sewers, drainage structures, manholes, water gate wells, hydrants, water mains, utility poles, overhead lines, underground conduits, underground cables, pavement, or other types of improvements within the construction limits, not designated on the Plans or directed by the OWNER'S REPRESENTATIVE to be removed, shall be carefully protected from damage during the construction operations. Any type of existing structure or improvement not designated to be removed, but which is damaged by the CONTRACTOR'S operations shall be repaired or replaced by the CONTRACTOR, at his expense.

B. Maintaining Drainage

All existing open drains, field and roadway ditches, drainage tile, sewers, enclosed drains, natural and artificial watercourses, surface drainage or any other types of drainage within the limits of the Work shall be maintained and free to discharge during the excavating, backfilling and compacting operations.

Any drainage facility not designated to be abandoned, but which is damaged, and/or any drainage interrupted by the CONTRACTOR'S operation shall be immediately repaired, replaced, or cleared by the CONTRACTOR, as directed by the OWNER'S REPRESENTATIVE. All costs incurred shall be incidental to the excavating, backfilling and compacting or grading operations.

1.05 GUARANTEE

Existing trees destroyed by neglect of the General CONTRACTOR or his subcontractor's, will be replaced by the General CONTRACTOR. The tree value assessment shall be an average between the OWNERS estimator and the CONTRACTOR'S estimator. The assessors shall possess a Masters Degree in horticulture or have a minimum of ten (10) years horticulture experience. Replacement of tree species and location shall be determined by the OWNER'S REPRESENTATIVE.

PART 2 – PRODUCTS

2.01 MATERIALS

Granular material shall be material passing a 1-inch sieve and at least 35% retained on a No. 200 sieve and meeting the approval of the OWNER'S REPRESENTATIVE.

PART 3 – EXECUTION

3.01 PREPARATION

A. General

The CONTRACTOR and the OWNER'S REPRESENTATIVE shall meet before commencement of site clearing to discuss locations of top soil spoils, construction circulation and materials storage in relation to the preservation of existing plant materials. This meeting shall be requested by the CONTRACTOR two (2) weeks prior to site clearing operations commence.

B. Dewatering

The area within the vicinity of the new Work shall be dewatered prior to commencing any construction activities. The depth of the dewatering shall be sufficient to allow the Work area to remain in a dry condition during the various construction operations. The costs incurred for furnishing, installing, maintaining and removing the dewatering equipment shall be at the CONTRACTOR'S expense.

3.02 PERFORMANCE

A. General

The various construction operations shall be restricted to the existing right-of-way or as indicated on the Plans. If additional area is required, the CONTRACTOR shall furnish the OWNER'S REPRESENTATIVE with written permission obtained from the property owner for any part of the operations he conducts outside of the right-of-way or limits indicated. Barriers shall be installed in locations as directed by the OWNER'S REPRESENTATIVE.

B. Existing Topsoil On-Site

Topsoil encountered along the route of the construction shall be pushed back and preserved for use in restoration following completion of the construction. The topsoil must remain on each given parcel and lot throughout the Project including the existing road right-of-way adjoining the parcel or lot where it existed.

C. Existing Utilities

When existing utilities are shown on the Plans, their locations are approximate only, as secured in the field investigation and from available public records. The CONTRACTOR, prior to the start of construction, shall contact Sunshine One Facilities Locating Service and/or the public agency or utility having jurisdiction to request the verification of all utilities within the construction area.

When existing utility lines, structures or utility poles are encountered during the performance of the Work, the CONTRACTOR, at his expense, shall perform his operations in such a manner that the service will be uninterrupted.

The CONTRACTOR shall expose all existing utility lines prior to any excavation operation, to determine any conflict with the proposed improvement. The CONTRACTOR shall be responsible for any relocation required as a result of any conflict of existing utilities with the proposed improvement.

Should it become necessary to move any utility structure, line or pole, whether called for on the Plans or otherwise found necessary to be moved, the CONTRACTOR shall make all arrangements with the Owner of the utility for the moving. All costs incurred for such moving shall be at the CONTRACTOR'S expense unless indicated otherwise. However, before disturbing a utility line, structure or pole, the CONTRACTOR shall furnish the OWNER'S REPRESENTATIVE with satisfactory evidence, in writing, that proper arrangements have been made with the Owner of the utility.

D. Existing Buildings

Existing buildings may be encountered throughout the Project within limits of the presently established right-of-way or easement. Good construction methods and procedures shall be employed by the CONTRACTOR, at his expense, to protect the structures.

When it becomes necessary for the CONTRACTOR to move one of these buildings in order to proceed with construction, the CONTRACTOR, at his expense, shall exercise all due care in moving the building to prevent undue damage to the structure. Prior to moving an existing building, the CONTRACTOR shall furnish the OWNER'S REPRESENTATIVE with satisfactory evidence, in writing, that proper arrangements have been made with the Owner of the building.

Unless otherwise specified on the Plans or directed by the OWNER'S REPRESENTATIVE, the length of the move shall be maintained to a minimum which will allow for construction of the improvement.

E. Existing Sewers, Tile and Mains

Existing sanitary sewers, storm sewers, drain tile, septic tank bed tiles, water mains or building services or leads, that are encountered during the performance of the Work that require relocation or are damaged, shall be restored with new materials equal in quality and type to the materials encountered.

The new material shall be installed as specified on the Plans or as directed by the OWNER'S REPRESENTATIVE. The bedding and backfill material, unless otherwise specified, shall be an approved granular material, compacted to 95% of its maximum unit weight.

Seepage bed tile and water mains shall be replaced in accordance with the requirement of the appropriate local Department of Health.

The relocation or protection of existing sewers, tiles, tile field, water mains or building services and leads shall be at the CONTRACTOR'S expense, unless otherwise indicated in the Contract Documents.

F. Existing Structures

Existing surface and subsurface structures may be shown on the Plans, in locations considered most probable from information secured in the field investigation and from available public records. Neither the correctness nor completeness of such information is guaranteed or implied. All structures shall be protected, preserved or restored by the CONTRACTOR, at his expense.

Unless otherwise specified on the Plans, the CONTRACTOR, at his expense, shall remove any abandoned culvert, pipe, sewer, structure or part of a structure which is to be replaced or rendered useless by the new construction.

The structure shall be broken down to at least 12 inches below the subgrade. All pipes connected to the structure shall be plugged with a brick, masonry or concrete bulkhead approved by the OWNER'S REPRESENTATIVE. The remainder of the excavation shall be backfilled with a granular material, compacted in place, and shall meet with the approval of the OWNER'S REPRESENTATIVE.

If a structure is to be removed from a system that is to remain in service, a bypass system, approved by the OWNER'S REPRESENTATIVE, shall be installed and maintained by the CONTRACTOR, during the rebuilding period.

Salvaged materials derived therefrom shall become the property of the CONTRACTOR and unless otherwise specified on the Plans or in the Summary of Work, shall be disposed of by the CONTRACTOR, at his expense.

G. Trees

All trees excepting those specified on the Plans to be removed, shall be effectively protected by the CONTRACTOR during his construction operations. Individual trees to be preserved shall have tree protection barriers installed at the drip line of each tree.

H. Fences

Fences shall be removed and replaced or shall be removed as indicated on the Plans or as directed by the OWNER'S REPRESENTATIVE. If any of the existing material is damaged or destroyed, the CONTRACTOR shall replace the material at his expense.

Where fencing is encountered during construction, and its removal was not called for on the Plans or was not directed by the OWNER'S REPRESENTATIVE, it shall be replaced or restored, at the CONTRACTOR'S expense, to a condition comparable to that prior to construction.

After the fence removal or relocation operations are complete, all surplus material shall be removed and disposed of by the CONTRACTOR, at his expense, unless otherwise called for on the Plans or as directed by the OWNER'S REPRESENTATIVE.

Any holes or voids resulting from the fence removal operation shall be backfilled with a suitable material, approved by the OWNER'S REPRESENTATIVE.

Where fences are encountered that are being used to confine livestock or to provide security, the same shall be immediately replaced following the disturbance. During the disturbance, the CONTRACTOR, at his expense, shall provide, install and maintain a temporary fence, meeting the approval of the OWNER'S REPRESENTATIVE.

I. Removing Pavement

The removal of concrete and bituminous pavement as called for on the Plans or as directed by the OWNER'S REPRESENTATIVE, shall consist of removing and disposing of pavement and shall include base courses, surface courses, integral and separate curbs, integral and separate curb and gutters, sidewalks and end headers.

The pavement shall be removed to an existing joint or cut to a true line, either perpendicular or parallel to the direction of travel, with the vertical face resting a minimum of 18 inches onto undisturbed ground, as indicated on the Plans or as directed by the OWNER'S REPRESENTATIVE. The cutting shall be accomplished by using a power driven concrete saw approved by the OWNER'S REPRESENTATIVE. The depth of the saw cut shall be a minimum of six (6) inches, or as directed by the OWNER'S REPRESENTATIVE, to insure that the removal of the old pavement will not disturb or damage the section of pavement remaining in place.

Residual concrete pavement shall not be less than five (5) feet measured transversely, nor less than six (6) feet longitudinally measured from a joint.

In removing a concrete base course, where part of the existing bituminous surface is to remain in place, the bituminous surface shall be cut the full depth by the use of a power-driven saw, approved by the OWNER'S REPRESENTATIVE along a line parallel to and at least one (1) foot from either side of the base course removal.

Old pavement with a concrete cap shall be considered as only one pavement, whether or not

there is a separation layer of earth, aggregate, or bituminous material between the old material and the concrete cap.

Where integral curb is to be removed flush with the existing concrete pavement, the operation shall be performed by saw cutting or by a mechanical means, approved by the OWNER'S REPRESENTATIVE, so as to leave a neat and flush cleavage plane, without damage to the underlying pavement.

Where integral curb and gutter are to be removed, the operation shall be performed by saw cutting. The limits of the removal shall be as called for on the Plans, or as directed by the OWNER'S REPRESENTATIVE. However, in no case shall the width of removal be less than 18 inches for sections with rolled or straight curb or less than 24 inches for mountable curbs.

If during the pavement removal operation any concrete or bituminous pavement or surfacing is damaged beyond the removal limits designated on the Plans or directed by the OWNER'S REPRESENTATIVE, the damaged pavement or surfacing shall be removed and replaced at the CONTRACTOR'S expense.

Any earth which may be removed during the pavement removal operation shall be replaced by backfilling to the proposed subgrade with a suitable material, approved by the OWNER'S REPRESENTATIVE, at the CONTRACTOR'S expense.

J. Guardrail

Beam guardrail and cable guardrail shall be relocated or shall be removed as specified on the Plans or as directed by the OWNER'S REPRESENTATIVE. If any of the existing material is damaged or destroyed, the CONTRACTOR shall replace the material at his expense.

Where guardrail is encountered during construction, and its removal was not called for on the Plans or was not directed by the OWNER'S REPRESENTATIVE, it shall be replaced or restored, at the CONTRACTOR'S expense, to a condition comparable to that prior to construction.

After the guardrail removal or relocation operations are complete, all surplus material shall be removed and disposed of by the CONTRACTOR, at his expense, unless otherwise called for on the Plans or as directed by the OWNER'S REPRESENTATIVE.

Any holes or voids resulting from the guardrail removal operation shall be backfilled with a suitable material, approved by the OWNER'S REPRESENTATIVE.

K. Adjust Structures

Structures to be adjusted shall be as called for on the Plans or as directed by the DESIGN PROFESSIONAL. Adjustment or structures shall apply where the elevation of the casting is either raised 12 inches or less, or lowered six (6) inches or less.

The existing frame and cover shall be carefully removed and stored, and shall be reinstalled on the same structure, unless a new frame and cover are called for on the Plans or as directed by the DESIGN PROFESSIONAL.

The brick or concrete adjustment rings shall be set in mortar or installed as recommended by the manufacturer and as approved by the DESIGN PROFESSIONAL.

The outside surface of the new brick or block structures shall receive a masonry plaster coat, a minimum of 2 inch thick.

The structure shall be properly backfilled with a granular material, compacted in place, and meeting the approval of the DESIGN PROFESSIONAL.

The flow in the entire system shall be maintained, at the CONTRACTOR's expense, while performing any part of the Work. Also, the structure shall be cleaned and all unsuitable material shall be disposed of at the CONTRACTOR's expense.

L. Reconstruct Structures

Structures to be reconstructed shall be as called for on the Plans or as directed by the DESIGN PROFESSIONAL. Reconstruction of structures shall apply where the elevation of the casting must be raised in excess of 12 inches or lowered in excess of six (6) inches.

The existing frame and cover shall be carefully removed and stored, and shall be reinstalled on the same structure unless a new frame and cover are called for on the Plans or as directed by the DESIGN PROFESSIONAL.

The existing corbel entrance sections or precast concrete chimney type entrance shall be removed along with any additional brick courses or precast concrete sections necessary to achieve the amount of reconstruction called for on the Plans or as directed by the DESIGN PROFESSIONAL.

The necessary brick Work and precast concrete sections shall be installed to meet the design grade.

The outside surface of the new brick or block structures shall receive a masonry plaster coat, a minimum of 2 inch thick. The structure shall be properly backfilled with a granular material, compacted in place, and meeting the approval of the DESIGN PROFESSIONAL.

The flow in the entire system shall be maintained, at the CONTRACTOR's expense, while performing any part of the Work. Also, the structure shall be cleaned and all unsuitable material shall be disposed of at the CONTRACTOR's expense.

M. Holes

Earth removed during any phase of the excavation or removal operations, resulting in a hole or void, shall be replaced by backfilling to the proposed subgrade with a suitable granular material approved by the OWNER'S REPRESENTATIVE. The material shall be placed by the controlled density method or other effective means having the approval of the OWNER'S REPRESENTATIVE and shall be compacted to 95% of maximum unit weight.

The furnishing, placing and compacting of the backfill material shall be at the CONTRACTOR'S expense.

N. Restoration

Areas not paved shall be restored in accordance with the type and location specified herein unless indicated otherwise on the Plans. The disturbed areas may be shaped by Machine Grading or another method approved by the OWNER'S REPRESENTATIVE to achieve the cross section, line and grade shown on the Plans. Areas where slopes are 1 on 4 or flatter shall be restored with topsoil, seed and mulch. Areas with slopes steeper than 1 on 4 shall be restored with sod.

Any excess material from the restoration operation shall be disposed of by the

CONTRACTOR at his expense.

The disturbed areas shall be graded to receive either topsoil and seed or topsoil and sod. The topsoil, seed, sod, fertilizer and mulch shall conform to the requirements specified on the Plans and Specifications

The CONTRACTOR, at his expense, shall furnish, place, and compact any additional fill, meeting the approval of the OWNER'S REPRESENTATIVE, needed to restore the disturbed areas to the cross sections called for on the Plans or as determined by the OWNER'S REPRESENTATIVE.

The CONTRACTOR, at his expense, shall restore all disturbed areas to their original condition, including storage areas, laydown areas, and parking areas to the satisfaction of the OWNER.

O. Soil Erosion and Sedimentation Control

If the permit is required, the CONTRACTOR, at his expense, shall prepare all plans, obtain all approvals, secure all permits and post all bonds and deposits required to comply with 2.01 Florida Environmental Land and Water Act of 1972 (380.012 F.S. et seq.) and related statutes.

The CONTRACTOR shall provide the OWNER'S REPRESENTATIVE with a copy of the soil erosion permit issued by the local enforcing agency for the Project, prior to commencing any type of earthwork on the Project.

P. Excess Excavation

Any excess excavation, brush, roots, stumps, broken concrete, pipe, debris, and other extraneous material from the construction shall become the property of the CONTRACTOR, and shall be disposed of at proper repository. Removal and disposal of this material shall be considered as part of final cleanup. No additional payment will be made for this item.

OWNER approval of the final site(s) condition in writing will be required prior to final payment authorization.

3.03 MAINTENANCE

Maintain tree protection barriers during the entire course of construction. Any position of a barrier which has been destroyed will be replaced at the start of the next working day.

Do not allow vehicular or pedestrian violation of the tree protection barrier. Do not store materials within tree protection barrier limits.

END OF SECTION

SECTION 02215
SITE GRADING

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes site grading as indicated on the Plans, complete with removing and salvaging topsoil, rough grading and finish grading.

B. Related Work Specified Elsewhere

1. Measurement and Payment: Section 01025
2. Clearing and Grubbing: Section 02100
3. General Earthwork: Section 02200

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 PERFORMANCE

A. Site Grading

Sites shall be graded as specified on the Plans or as directed by the OWNER'S REPRESENTATIVE. The CONTRACTOR shall carry out the grading operation to prevent standing water and soil saturation detrimental to structures and improvements. Provisions shall be made to preserve and protect trees and other vegetation specified on the Plans or directed by the OWNER'S REPRESENTATIVE not to be removed.

B. Removing and Salvaging Topsoil

Topsoil shall be salvaged in an amount equivalent to the quantity required by the Plans. Topsoil salvaged in excess of that required by the Plans or as required by the OWNER'S REPRESENTATIVE will be disposed of by the CONTRACTOR at their expense.

Before removing topsoil, all vegetation shall be reduced to a height of approximately four (4) inches and all such vegetation and all brush, stones, rocks, and any other objectionable litter or foreign material shall be removed and disposed of before the ground is broken for topsoil removal.

Equipment and methods of operations shall be such as to avoid the lifting of the subsoil. If soil or weather conditions are unsuitable, the CONTRACTOR shall cease stripping until directed by the OWNER'S REPRESENTATIVE that stripping can resume.

Topsoil shall be removed within the grading limits for cuts and shall be removed to a width and depth specified on the Plans or as directed by the OWNER'S REPRESENTATIVE.

The topsoil shall be stockpiled within the limits of construction in areas designated on the Plans, or used on the slopes as shown on the Plans or as directed by the OWNER'S REPRESENTATIVE. Stockpiles shall be located and shaped so as to avoid diversion of storm water runoff, either in or out of the limits of construction, towards buildings, creation of

standing water or interference of controlled irrigation. The stockpile shall avoid placing topsoil around trunks and root areas of trees to be preserved.

Topsoil shall be kept separate from other excavated materials which are to be used for embankment and shall be completely removed from any designated area prior to the beginning of regular excavation or embankment in the area.

The topsoil stockpiles shall be located as near the original locations as possible and no payment will be made for overhaul.

C. Rough Grading

The site shall be graded as necessary to comply with the Plans or as directed by the OWNER'S REPRESENTATIVE. The subgrade shall be roughly established by cut or fill, approximately parallel to proposed finished grades and to elevations which allow for thickness of topsoil and installation of site or roadway improvements.

In fill areas all debris shall be removed from the area to be filled. All material detrimental to site improvement shall be removed from the site and acceptably disposed of as specified in General Earthwork, of the Specifications.

Original ground on sloping sites shall be scarified and benched or otherwise treated to provide adequate bond and to prevent slippage of fill.

Fill material shall be free of debris or other detrimental material and shall have a reasonable moisture content when placed. All fill shall be compacted to a density not less than 100% of the maximum unit weight and placed in layers no less than nine (9) inches and no greater than 15 inches.

D. Finish Grading

The subgrade shall be smoothed parallel to proposed finished grades and elevations specified on the Plans. The subgrade shall be scarified to assure bond with the topsoil prior to spreading of the topsoil.

The topsoil shall be spread uniformly to provide a smooth, even surface at a finish grade specified on the Plans or acceptable to the OWNER'S REPRESENTATIVE. Topsoil shall be spread only after the OWNER'S REPRESENTATIVE has approved the subgrade. After spreading, the topsoil shall be compacted lightly as necessary to minimize settlement. Final grades shall not vary more than 1/10 of a foot from the elevations indicated on the Plans.

END OF SECTION

SECTION 02223
STRUCTURE EXCAVATION AND BACKFILL

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes excavation for structures, removal and disposal of excavated materials, backfilling, backfill materials and compaction.

B. Related Work Specified Elsewhere

1. Clearing and Grubbing: Section 02110

2. Dewatering: Section 02140

3. General Earthwork: Section 02200

4. Site Grading: Section 02215

1.02 QUALITY ASSURANCE

A. Reference Standards

Unless otherwise specified, the Work for this Section shall conform to the applicable portions of the following Standard Specifications:

ASTM- American Society of Testing and Materials

AASHTO- American Association of State Highway Transportation Officials

FDOT- Florida Department of Transportation

1.03 SUBMITTALS

A. Test Reports

1. Compaction

The testing laboratory shall provide the OWNER'S REPRESENTATIVE with two (2) copies of the test results of the compaction of the backfill. The testing for compaction shall be performed by a testing laboratory approved by the OWNER'S REPRESENTATIVE. The test results shall be signed and sealed by a Professional Engineer.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Granular Materials

Granular material shall be material passing a 1-inch sieve and at least 12% retained on a No.

200 sieve and meeting the approval of the OWNER'S REPRESENTATIVE.

PART 3 – EXECUTION

3.01 PREPARATION

A. Dewatering

The area within the vicinity of the new Work shall be dewatered in accordance with Section 02140 prior to the excavation operation. The depth of the dewatering shall be sufficient to allow the excavation to remain in a dry condition during the construction of the structure, including the excavating, backfilling and compacting operations.

3.02 PERFORMANCE

A. Excavation

Excavation shall include the site clearing and grubbing, the excavating and disposing of all materials encountered, the supporting and protecting of all structures and/or utilities encountered above and below the ground surface, and the removal of water from the construction site. Excavation shall also include the removal of existing structures, as shown on the Plans or as directed by the OWNER'S REPRESENTATIVE. Rock excavation, if applicable, shall be performed as a part of the excavation in accordance with specifications contained elsewhere.

The CONTRACTOR shall keep the limits of their excavation operations within a reasonable close conformity with the location and grade, of each structure.

The excavated materials shall be temporarily stored in a manner that will not cause damage to trees, shrubs, fences, improvements, utilities, private property or traffic. The excavated materials shall not be placed at such locations that will endanger the banks of the excavation by imposing loads thereon.

The excavation shall be of sufficient size to allow for the construction of the new Work, the placing and compacting of the backfill and for the dewatering operation.

When concrete is to bear on or against an excavated surface other than rock, special care shall be taken not to disturb the surface. The final removal of the foundation material to grade shall not be made until just prior to the placing of the concrete.

Concrete shall not be placed until the depth of the excavation has been checked and the suitability of foundation material has been reviewed by the OWNER'S REPRESENTATIVE.

Excavated material, determined by the OWNER'S REPRESENTATIVE as suitable for backfill may be used. All excess materials shall be disposed by the CONTRACTOR, at his expense, as specified in General Earthwork, of the Specifications.

The elevations for the bottom of footings shall be subject to such changes as are necessary to insure a satisfactory foundation. Any changes required shall be reviewed by the OWNER'S REPRESENTATIVE prior to making the change.

The surface of all rock or other hard material upon which concrete is to be placed shall be freed from all loose fragments, cleaned and cut to a firm surface. The surface shall be level, stepped or serrated, as shown on the Plans.

All unsound material underlying proposed structures shall be removed and replaced with material approved by the OWNER'S REPRESENTATIVE, in layers not exceeding six (6) inches in depth. Each layer shall be compacted to 100% of maximum unit weight unless indicated otherwise on the Plans, or within these specifications.

B. Sheeting, Shoring, and Bracing

The CONTRACTOR shall furnish, place and maintain at all times such sheeting, shoring, and bracing of the excavated area as may be required for safety of the workmen and for protection of the new Work or adjacent structures, including pavement, curbs, sidewalks, pipelines and conduits next to, or crossing the excavated area, and for the protection and safety of pedestrian and vehicular traffic.

The CONTRACTOR shall be responsible for the complete design of all the sheeting, shoring, and bracing Work. Prior to installing the sheeting, shoring or bracing, the CONTRACTOR shall submit Plans for this Work to the OWNER'S REPRESENTATIVE for his information.

Sheeting, shoring and bracing shall conform to current federal or state regulations for safety.

Where indicated on the Plans and where necessary in the Work, install and leave sheeting, shoring and bracing in place. No extra compensation shall be paid to the CONTRACTOR for sheeting, shoring or bracing left in place.

Supports for pipes, conduits, etc., crossing the excavated area shall conform to the requirements of the owners of such facilities and if necessary, shall be left in place.

The furnishing, placing, maintaining and removing of sheeting, shoring and bracing materials shall be at the CONTRACTOR'S expense.

The CONTRACTOR shall not remove the sheeting, shoring or bracing until the structure has obtained sufficient strength to support the external loads. The sheeting, shoring and bracing material shall not come in contact with the structure, but shall be installed so that no concentrated loads or horizontal thrusts are transmitted to the structure.

C. Cofferdams

A cofferdam shall consist of the maintenance, installation and removal of a substantially watertight enclosure or a well-point system or similar system, which will permit construction of the substructure, above seal or subfooting, in the dry and without damage to the Work. Alternate methods, where used in lieu of cofferdams, will be permitted by Authorization only. Such Authorization will be considered only after receipt of a applicable permits for the alternate method.

Stream diversion and earth dikes, where used in lieu of cofferdams or a well-point system will be permitted by authorization only. Such authorization will be considered only after receipt of the appropriate permits for such construction.

The interior dimensions of cofferdams shall be such as to give sufficient clearance for the construction of forms and the inspection of their exteriors, and to permit dewatering outside of the forms.

Cofferdams or cribs which are tilted or moved laterally during the process of sinking shall be righted or enlarged so as to provide the necessary clearance.

Cofferdams shall not be braced to substructure forms. They shall be constructed so as to

protect the Work in place against damage from high water and to prevent injury to the foundation by erosion. No timber bracing shall extend into or remain in the finished concrete.

Cofferdams shall be removed in such a manner as not to disturb or mar the finished concrete. When called for on the Plans or where necessary in the Work, cofferdam sheeting shall be left in place.

The furnishing, construction, maintenance and removal of the cofferdams including pumping shall be at the CONTRACTOR'S expense.

If the CONTRACTOR elects to use a well-point system or similar system, he shall be responsible for any claims for damages resulting therefrom.

D. Backfill

Backfill material shall be placed only after the new Work and backfill material have been inspected by the OWNER'S REPRESENTATIVE.

Backfill shall not be placed against any portion of the new Work until the required curing, surface finishing and waterproofing of such portions have been completed. Backfill which will place an unequalized horizontal loading on the new Work shall not be placed until the concrete has attained at least 70% of its design strength. To equalize horizontal loadings, the required backfill around the new Work shall be placed on opposite sides at the same time.

Granular material acceptable to the OWNER'S REPRESENTATIVE shall be used for backfilling the new Work unless otherwise indicated on the Plans or within these specifications.

All spaces excavated and not occupied by the new Work or by the specified backfill material, shall be backfilled with suitable material from the excavation.

After the backfill has been placed and compacted to the flow line elevation of any weepholes indicated on the Plans, the back end of each weephole shall be covered with not less than two (2) cubic feet of No. 6 or 7 coarse aggregate.

Large stones, boulders, broken rocks, concrete, and masonry shall not be used in the backfill.

The backfill shall be carried up to the surface of the adjacent ground or to the elevation of the proposed earth grade, and its top surface shall be neatly graded. Fills around all new Work shall be trimmed to the lines shown on the Plans or as directed by the OWNER'S REPRESENTATIVE.

E. Compacting Backfill

Backfill material shall be placed in accordance with the methods specified in FDOT, Section 125.

The backfill material shall be compacted to 100% of its maximum unit weight.

The maximum unit weight, when used as a measure of compaction or density of soils, shall be understood to mean the maximum unit weight per cubic foot as determined by AASHTO T99, Method C.

Compaction of the backfill will not be paid for separately, but shall be considered incidental to

the Work of backfilling and shall include all the Work of manipulating the soil to obtain the specified densities. No additional compensation will be allowed for any delay required to obtain the specified moisture content or the specified density.

F. Cleanup

Immediately following the placing and compacting of the backfill, the excess material shall be removed and disposed of by the CONTRACTOR, at his expense, as specified in General Earthwork, of the Specifications.

The construction area shall be graded and left in a neat, workmanlike condition.

3.03 FIELD QUALITY CONTROL

A. Testing

During the course of the Work, the OWNER'S REPRESENTATIVE may require testing for compaction or density of the backfill. The taking of samples and the testing required shall be performed by a testing laboratory approved by the OWNER'S REPRESENTATIVE. The cost for testing and sampling shall be at the expense of the CONTRACTOR.

The testing laboratory shall furnish the OWNER'S REPRESENTATIVE with two (2) copies of the results of all tests. Test results shall be signed and sealed by a Professional Engineer. Testing procedures shall conform to current FDOT, Standards for Construction.

B. Defective Work

Any portion of the backfill which is deficient in the specified density shall be corrected by the methods meeting the approval of the OWNER'S REPRESENTATIVE. Any extra testing or sampling required because of apparent deficiencies shall be at the CONTRACTOR'S expense.

END OF SECTION

SECTION 02226
TRENCHING, BACKFILLING AND COMPACTION

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes open trench construction, complete with trenching, sheeting, shoring, bracing, backfilling, backfill materials and compaction.

B. Related Work Specified Elsewhere

1. Clearing and Grubbing: Section 02110
2. Dewatering: Section 02140
3. General Earthwork: Section 02200

1.02 QUALITY ASSURANCE

A. Reference Standards

Unless otherwise specified, the Work for this Section shall conform to the applicable portions of the following Standard Specifications:

ASTM- American Society of Testing and Materials
AASHTO - American Association of State Highway Transportation Officials
FDOT- Florida Department of Transportation
OSHA - Occupational Safety and Hazard Administration

1.03 SUBMITTALS

A. Compaction Test Reports

The testing laboratory shall provide the OWNER'S REPRESENTATIVE with two (2) copies of the test results of the compaction of the backfill. The testing for compaction shall be performed by a testing laboratory approved by the OWNER'S REPRESENTATIVE. The test results shall be signed and sealed by a Professional Engineer. The Contractors shall employ and pay for the services of the testing laboratory.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Granular Materials

Granular material shall be material passing a 1-inch sieve and at least 12% retained on a No. 200 sieve and meeting the approval of the OWNER'S REPRESENTATIVE.

B. Concrete

The concrete shall conform to FDOT, Section 345, use Class I; 2,500-psi strength; Type I cement; 5.5 sacks cement per cubic yard; 5 coarse aggregate; silica sand fine aggregate; three (3) percent to six (6) percent air content; 3-inch maximum slump; no admixtures without

the OWNER'S REPRESENTATIVE's review.

PART 3 – EXECUTION

3.01 PREPARATION

A. Dewatering

The area within the vicinity of the trenching operation shall be dewatered in accordance with Section 02140 prior to the trenching operation. The depth of the dewatering shall be sufficient to allow the trench excavation operation including backfilling and compacting to proceed in a dry condition.

3.02 PERFORMANCE

A. Trench Excavation

Open cut trench excavation shall include the site clearing and grubbing, the excavating and disposing of materials encountered, the supporting and protecting of all structures and/or utilities encountered above and below the ground surface, and the removal of water from the construction site.

The trench shall be excavated in reasonable close conformity with the lines and grades on the Plans or as established by the OWNER'S REPRESENTATIVE.

The excavated materials shall be temporarily stored along the trench in a manner that will not cause damage to trees, shrubs, fences, improvements, utilities, private property or traffic. The excavated materials shall not be placed at such locations that will endanger the trench banks by imposing loads thereon.

The trench shall be of sufficient width to provide adequate working space to permit the installation of the pipe and the compaction of the bedding material under and around the pipe. However, the width of the trench from below the pipe bedding to 12 inches above the top of the pipe shall not exceed the dimensions shown on the plans.

To support the additional load of the backfill when the maximum trench width as specified for rigid pipe is exceeded, the CONTRACTOR shall install, at their expense, concrete encasement which shall completely surround the pipe and shall have a minimum thickness at any point of 1/4 of the outside diameter of the pipe or four (4) inches, whichever is greater, or at their expense, install another type bedding, approved by the OWNER'S REPRESENTATIVE. The concrete encasement shall consist of 3,000 psi strength concrete.

To support the additional load of the backfill when the maximum trench width as specified for flexible or semi-rigid pipe is exceeded, the CONTRACTOR shall install, at their expense, standard pipe bedding to the full width between undisturbed trench walls or at least 2.5 pipe diameters on each side of the pipe.

When, through the CONTRACTOR's construction procedure or because of unsuitable existing ground conditions, it becomes impossible to maintain alignment and grade properly, the CONTRACTOR, at their expense, shall excavate below the normal trench bottom grade and shall fill the void with a large size aggregate or 2,500 psi concrete as approved by the OWNER'S REPRESENTATIVE to insure that the pipe when laid in the proper bedding will maintain correct alignment and proper grade.

All trench excavations, including those for shafts and structures, shall be adequately braced

and/or sheeted where necessary to prevent caving or squeezing of the soil.

B. Sheeting, Shoring, and Bracing

The CONTRACTOR shall furnish, place and maintain at all times such sheeting, shoring, and bracing of the trench and/or shaft as may be required for safety of the workmen and for protection of the new Work or adjacent structures, including pavement, curbs, sidewalks, pipelines and conduits next to, or crossing the trench area, and for the protection and safety of pedestrian and vehicular traffic.

The CONTRACTOR shall be responsible for the complete design of all the sheeting, shoring, and bracing Work. Prior to installing the sheeting, shoring or bracing, the CONTRACTOR shall submit Plans for this Work to the OWNER'S REPRESENTATIVE for their information.

Sheeting, shoring and bracing shall conform to current federal or state regulations for safety.

Where indicated on the Plans and where necessary in the Work, install and leave sheeting, shoring and bracing in place. No extra compensation shall be paid to the CONTRACTOR for sheeting, shoring or bracing left in place.

Supports for pipes, conduits, etc., crossing the trench shall conform to the requirements of the owners of such facilities and if necessary, shall be left in place.

The furnishing, placing, maintaining and removing of sheeting, shoring and bracing materials shall be at the CONTRACTOR’S expense.

The CONTRACTOR shall not remove the trench sheeting, shoring or bracing unless the pipe has been properly bedded and the trench backfilled to sufficiently support the external loads. The sheeting, shoring and bracing material shall not come in contact with the pipe, but shall be installed so that no concentrated loads or horizontal thrusts are transmitted to the pipe.

C. Backfilling Trenches

Backfill material shall be placed on sections of bedded pipes only after such pipe bedding and backfill materials have been approved by the OWNER'S REPRESENTATIVE.

The trench backfilling shall follow the pipe laying as closely as possible. However, at no time shall the pipe laying in any trench precede backfilling of that trench by more than 100 feet, unless otherwise directed by the OWNER'S REPRESENTATIVE.

The backfill material shall be compacted to 100% of its maximum unit weight unless otherwise shown on the plans.

The maximum unit weight, when used as a measure of compaction or density of soils, shall be understood to mean the maximum unit weight per cubic foot as determined by AASHTO T99, Method C.

Compaction of the backfill will not be paid for separately, but shall be considered incidental to the Work of backfilling and shall include all the Work of manipulating the soil, to obtain the specified densities. No additional compensation will be allowed for any delay required to obtain the specified moisture content or the specified density.

D. Cleanup

Immediately following the placing and compacting of the backfill, the excess material shall be

removed and disposed of by the CONTRACTOR, at their expense, as specified in General Earthwork, of the Specifications.

The construction area shall be graded and left in a neat, workmanlike condition.

3.03 FIELD QUALITY CONTROL

A. Testing

During the course of the Work, the OWNER'S REPRESENTATIVE may require testing for compaction or density of the backfill. The taking of samples and the testing required shall be performed by a testing laboratory approved by the OWNER'S REPRESENTATIVE. The cost for testing and sampling shall be at the expense of the OWNER.

The testing laboratory shall furnish the OWNER'S REPRESENTATIVE with two (2) copies of the results of all tests. Test results shall be signed and sealed by a Professional Engineer. Testing procedures shall conform to AASHTO T99, Method C, and to current FDOT, Standards for Construction.

B. Defective Work

Any portion of the backfill which is deficient in the specified density shall be corrected by the methods meeting the approval of the OWNER'S REPRESENTATIVE. Any extra testing or sampling required because of apparent deficiencies shall be at the CONTRACTOR'S expense.

END OF SECTION

SECTION 02240
SODDING

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes sodding complete with earth bed preparation, providing and placing topsoil, compacting and finishing topsoil, furnishing and placing sod, furnishing and placing stakes, watering sod, rolling and tamping sod, mowing sod, replacing defective or deteriorated sod and maintenance and care of sod in place.

B. Related Work Specified Elsewhere

1. Measurement and Payment: Section 01025
2. General Earthwork: Section 02200
3. Site Grading: Section 02215

1.02 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies

1. State Department of Agriculture

Comply with the applicable requirements of the Florida Pesticide Application Act of 1974 with Federal Environmental Pesticides Control Act of 1972 and Florida Department of Agriculture nursery grown sod.

1.03 SUBMITTALS

A. Growers Certificate

Where applicable, submit copies of Sod Growers Certificate to the DESIGN PROFESSIONAL indicating nursery from which sod was taken, grass species and percentage in accordance with the Florida Pesticide Application Act of 1974 with Federal Environmental Pesticides Control Act of 1972 and Florida Department of Agriculture Regulations referenced above in Article 1.02.A.

B. Topsoil Borrow Pit Agreements

When requested by the DESIGN PROFESSIONAL, submit evidence of topsoil borrow pit agreement for pits used by the CONTRACTOR.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials

Sod shall be delivered to the project site on suitably approved wooden pallets. Sod shall be delivered in manageable squares and the amount of sod delivered shall not exceed that which can be installed in one (1) 24-hour period. Sod that has been damaged during delivery will be rejected.

B. Storage

Store sod in such a manner as to protect roots and grass material from exposure to wind and sunlight, freezing or other injury. Sod shall be kept moist during storage, under shade or covered with moistened burlap. Sod that has been damaged or has deteriorated because of storage will be rejected.

C. Handling

Sod shall be handled in a manner to prevent breaking or other damage. Sod shall not be handled by pitch forks or by dumping from trucks or other vehicles. Care shall be taken at all times to retain the native soil on the roots of each sod roll during stripping and handling. Sod that has been damaged by handling will be rejected.

1.05 JOB CONDITIONS

A. Environmental Requirements

1. Soil Moisture Conditions for Sod Cutting

Perform sod cutting and removal during soil moisture conditions as specified under paragraph 3.02.B below.

2. Seasonal Limitations

Sod shall not be placed during drought nor between the dates of June 1 and August 15, inclusive, unless directed by the DESIGN PROFESSIONAL.

3. Temperature Limitations

Sod shall not be placed when the ambient air temperature is below 32 degrees F.

B. Protection

1. Signs and Barricades

Provide suitably approved warning signs and barricades for protection of new sodding from pedestrian or vehicular traffic. Protect all newly sodded areas during the progress of the Work and until the completion of the turf establishment period.

2. Adjacent Construction

Protect all adjacent construction from topsoil spills and perform such cleanup of affected surfaces before it becomes compacted by traffic.

C. Planting Schedule

The CONTRACTOR will be required to have a minimum of 90% of the sod placed at least one (1) month prior to final acceptance of the complete Project to insure adequate rooting of the sod.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Sod

1. General

Dense, well-rooted growths of the species and type indicated on the plans indigenous to the general locality where it is proposed for use, free of noxious weed, relatively free of weeds and undesirable plants, in general, large stones, roots and other material which might be detrimental to the growth, development or future maintenance of the sod.

2. Nursery Sod

Nursery sod, where used, shall have been grown in a prepared seed bed and regularly fertilized and maintained according to established practices for at least two (2) years before cutting.

3. Field or Salvage Sod

Salvage sod existing on areas to be disturbed in construction or field grown sod meeting the requirements of paragraph 2.01.A.1 of this Section shall be used as indicated on the Plans or as directed by the DESIGN PROFESSIONAL.

4. Harvest Heights

Sod shall be of uniform height when harvested. Vegetation more than five (5) inches in height shall be mowed to a height of three (3) inches or less. When the sod is harvested (cut), the height of the grasses shall be as follows:

Field Grown Sod - 2 to 3 inches

Nursery Grown Sod - 1 to 2 inches

5. Harvest Thickness

Sod when harvested shall have the following average thickness:

Field Grown Sod - 2 inches

Nursery Grown Sod - 1 inch

B. Topsoil

Topsoil shall be the top 12 inches or less of soil taken from the top of the natural and undisturbed ground level and shall be a loam containing a sufficient amount of organic matter to attain proper texture. Topsoil shall be free of undesirable grasses, weed roots or other unsuitable material. All topsoil shall be subject to acceptance by the DESIGN PROFESSIONAL. The CONTRACTOR shall obtain his own topsoil borrow pit source and shall obtain all necessary permits and agreements for the use of such borrow pits at his own expense.

PART 3 – EXECUTION

3.01 CONTRACTORS VERIFICATION

A. Earth Bed

Prior to placing any topsoil, verify that earth bed in areas to receive sod have been completely stabilized to prevent settling and that grades have been made smooth, uniform and parallel to the finished grades and cross sections shown on the Plans. Ascertain that the tops and bottoms of all slopes are rounded off to form vertical curves and have been found acceptable to the DESIGN PROFESSIONAL. Do no placing of topsoil until all earth bed conditions are accepted.

B. Topsoil

Prior to placing sod, verify that topsoil has been placed on the prepared earth bed to the proper depths shown on the Plans and as specified herein. Do not place any sod until topsoil conditions are satisfactory.

3.02 PREPARATION

A. Off-Site Source Inspection

Prior to commencement of sodding operations, notify the DESIGN PROFESSIONAL of the off-site sources from which sod is to be furnished. The DESIGN PROFESSIONAL, at his discretion, will inspect the sod at the off-site source.

B. Sod Harvesting

Sod shall be harvested by cutting into squares or into rectangular sections. The rectangular sections may vary in length, but shall be of equal width and of a size that will permit them to be lifted and rolled without breaking. During the stripping process and all other handling of the sod, care shall be taken to retain the native soil on the roots. Where off-site source inspection of sod is required by the DESIGN PROFESSIONAL, no sod shall be harvested until such inspection is complete and sod is accepted. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. When the soil is too dry, permission to cut sod may be granted by the DESIGN PROFESSIONAL only after it has been sufficiently watered to moisten the soil to the depth at which the sod is to be cut.

C. Preparation of Subgrade

Complete all fine grading within the areas to be covered with topsoil as necessary to bring the surface of the proposed subgrade to the elevations indicated on the Plans and parallel to the proposed finished grade. The surface of the subgrade, immediately prior to being covered with topsoil, shall be raked or otherwise loosened to a minimum depth of two (2) inches to facilitate making a bond between the subsoil and the topsoil.

3.03 INSTALLATION

A. Topsoil

1. Placing and Spreading Topsoil

Topsoil shall be placed and spread over the area indicated on the Plans or as directed by the DESIGN PROFESSIONAL. Topsoil shall be placed to a depth of three (3)

inches, plus or minus 1-inch, unless otherwise indicated on the Plans. At a minimum, topsoil placed shall be sufficiently greater than that shown on the Plans so that, after natural settlement or rolling, the completed Work will conform to the lines, grades and elevations indicated on the Plans.

2. Finishing Topsoil

After spreading topsoil, all large lumps, rocks, roots, debris or other foreign matter shall be removed from the topsoil by raking and disposed of off the site of the Work. Spreading shall be completed in such a manner that sodding operations can proceed without additional moving of topsoil. Topsoil furnished and placed shall be incidental to the sodding operations.

B. Sodding

1. Placing

Sod shall be laid within 24 hours after cutting and shall be properly protected during handling and placing. Sod shall be lifted from trucks or storage piles and placed on a moist earth bed by hand, making close joints without overlapping. All gaps between sections of sod and openings at angles shall be plugged with sod. When placing sod on slopes, the Work shall begin at the base of the slope and progress upward by carefully placing the sod on the smooth slope, in rows, with the lengths running at right angles to the slope. The transverse joints of sod strips shall be staggered and the sod carefully laid to produce tight joints. When the top of slopes are reached, the sod shall be carried back at least two (2) feet over the crest and trimmed to a line which is parallel to the top of the bank. The areas back of the crest shall have been previously graded and the surface of the sod, when placed, shall be two (2) inches below the level of this area and covered with a layer of topsoil at least two (2) inches in depth and thoroughly compacted in a manner that will conduct the surface water from runoff over the edge of the sod. No frozen sod shall be laid nor shall sod be laid on frozen soil.

2. Rolling

Rolling of the sod shall be done after initial watering and after the water has sufficiently soaked into the ground so that distortion of the sod surface and excessive compaction of the sod and the soil will not occur. The roller used shall be a water filled type at least three (3) feet wide and 30 inches in diameter and shall weigh approximately 300 pounds. Roller shall be adequate to cause sod to make firm contact with the soil. A tamper, acceptable to the DESIGN PROFESSIONAL, shall be used to press the sod firmly in place in areas not accessible to a roller. After tamping or rolling, the sod shall present a smooth, even surface, free from bumps or depressions.

3. Defective Materials

Damaged, deteriorated or otherwise defective sod will be rejected by the DESIGN PROFESSIONAL. Sod which has been permitted to dry out or become otherwise injured during transportation handling, storage or placing will be rejected. Where permitted by the DESIGN PROFESSIONAL, rejected sod, if suitable, may be pulverized and used for filling, where necessary.

C. Turf Establishment

1. Watering

After laying, the sod shall be watered until saturated. Sod shall be watered whenever excessive drying is evident during the period set for establishment. Sufficient water shall be applied to wet the sod through completely and to wet at least two (2) inches of the sod bed each time watering is required. Watering shall be done in a manner that will prevent erosion due to the application quantities of water. The watering equipment shall be of a type that will prevent damage to the finished surfaces of topsoil and sod. The sod shall be watered as required until firmly knit in place and in a vigorous growing condition.

2. Mowing

The sodded areas shall be mowed a minimum of three (3) times with mowing equipment acceptable to the DESIGN PROFESSIONAL. Sod shall be mowed to a height of two (2) inches whenever the average height of the grass becomes four (4) inches. When the amount of cut grass is heavy, the cuttings shall be removed from the sodded areas to prevent destruction of the underlying turf. Where weeds or other undesirable vegetation threaten to smother the planted species, such vegetation shall be mowed or, in the case of rank growths, uprooted, raked and removed from the area. All mowed cuttings, uprooted or raked vegetation, shall be legally disposed of away from the Project Site.

3. Establishment Period

The establishment period shall extend for a period from the time of sodding until the sodded area have received final acceptance of the entire Work covered by the Contract. The minimum period shall be 30 days.

END OF SECTION

SECTION 02270
EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.01 SECTION INCLUDES

Designing, providing, maintaining, removing temporary erosion and sedimentation controls.

1.02 REFERENCES

Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction and Roadway and Traffic Design Standards, latest editions:

A. Index No. 102 - Baled Hay or Straw Barriers and Silt Fences
B. Index No. 103 - Turbidity Barriers
C. Specification 300 - Prime and Tack Coats for Base Courses

1.03 OWNER'S INSTRUCTIONS/SEQUENCING

A. The OWNER has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, trenching, borrow and embankment operations. The OWNER also has authority to direct the CONTRACTOR to provide immediate permanent or temporary erosion and sediment control measures.

B. The CONTRACTOR shall respond to erosion and sediment control maintenance requirements or implement additional measures to control erosion ordered by the OWNER or governing authorities within 48 hours or sooner if required at no additional cost to the OWNER.

C. The CONTRACTOR will be required to incorporate permanent erosion control features into project at earliest practical time to minimize need for temporary controls.

PART 2 – PRODUCTS

2.01 EROSION CONTROL

A. Seeding and Mulching
B. Sodding
C. Hydro-seeding
D. Coarse Aggregate
E. Prime Coat - Per FDOT Specification 300

2.02 SEDIMENTATION CONTROL

A. Silt Fence - Per FDOT Index No. 102
B. Floating Turbidity Barriers - Per FDOT Index No. 103
C. Hay Bales - Per FDOT Index No. 102

PART 3 – EXECUTION

3.01 EROSION CONTROL

A. Maintain temporary erosion control systems as directed by the OWNER or governing authorities to control erosion and siltation during life of contract.

B. Permanently grass cut slopes as excavation proceeds to extent considered desirable and practical.

C. Grass all disturbed areas within 7 days of initial disturbance. Type of grassing shall be as follows: temporary grassing to be sodding at all drainage structures, retention areas, swales and ditches, and where slopes are steeper than 5:1. Temporary grassing can be seed and mulch at all other locations unless otherwise indicated in the drawings or specifications.

D. Erosion control of areas to be paved shall meet the following:

1. Install subgrade and base course materials within 48 hours of the removal/open cutting of existing pavement consisting of streets, driveways, or sidewalk. Install final surface courses within 14 days after removal of existing pavement.

2. Areas to receive asphalt shall receive erosion control measures no later than 48 hours after installation of base course. Temporary erosion control consists of placement of a bituminous prime coat and sanding the surface. Permanent erosion control consists of placement of the structural course.

3. Areas to receive concrete paving shall be either protected with a layer of FDOT coarse aggregate material or shall be paved within 48 hours of installation of the subgrade.

E. Dirt roads are to be stabilized and compacted within 7 days of the completion of trenching and grading activities.

3.02 SEDIMENTATION CONTROL

A. Install prior to construction.

B. Inspect every two weeks during construction.

C. Remove any sediment build-up.

D. Repair and reinstall any damaged or missing sediment control measures. Install additional measures if inspection reveals additional sedimentation control is necessary.

E. Rough excavate and grade any proposed stormwater ponds at the start of site grading activities. Direct site runoff to the ponds to minimize runoff to offsite areas.

END OF SECTION

SECTION 02280
CURBS, SIDEWALKS AND DRIVEWAYS

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes curb, curb and gutter, valley gutter, special gutter, sidewalks, sidewalk ramps, driveways, and drive approaches complete with concrete materials, concrete curing compounds, joint materials, field quality control and appurtenances.

B. Related Work Specified Elsewhere

1. Measurement and Payment: Section 01025

1.02 QUALITY ASSURANCE

A. Reference Standards

1. Unless otherwise specified, the Work for this Section shall conform to the applicable portions of the following Standard Specifications:

a. ASTM- American Society of Testing and Materials

b. AASHTO- American Association of State Highway and Transportation Officials

c. FDOT- Florida Department of Transportation

d. City of Venice Standard Details Sheet 3 Detail 1

1.03 SUBMITTALS

A. Reports

1. Written permission for the use of all local disposal sites shall be obtained and copies shall be furnished to the OWNER'S REPRESENTATIVE.

2. At the request of the OWNER'S REPRESENTATIVE, the CONTRACTOR shall provide the OWNER'S REPRESENTATIVE with certification that the various materials to be used conform to the ASTM Standards referred in the Specification.

B. Test Reports

1. Thickness and Compressive Strength

The OWNER'S REPRESENTATIVE shall be provided with two (2) certified copies of the test results of the thickness and compressive strength of the concrete. The core drilling, testing for thickness and compressive strength and the certification of the test results shall be performed by a testing laboratory approved by the OWNER'S REPRESENTATIVE.

1.04 JOB CONDITIONS

A. Environmental Requirements

1. Temperature

Comply with the requirements for concrete installation due to outside ambient air temperatures specified under Article 3.03.H. of this Section.

B. Protection

1. Protection Against Rain

Comply with the requirements for protecting new Work against damage from rain, as specified under Article 3.03.H. of this Section.

2. Protection Against Cold Weather

Comply with the requirements for protecting new Work against damage from cold weather, as specified under Article 3.03.H. of this Section.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Concrete

Concrete shall be in accordance with FDOT, Section 346, Class II, 3,400 psi strength; Type I cement; 6.0 sacks cement per cubic yard; Grade 5 or 9 coarse aggregate; silica sand fine aggregate 6.0% $\pm$ 1.0% air content; 3-inch maximum slump; no admixtures without the OWNER'S REPRESENTATIVE's approval. Type III cement may be used for high early strength concrete.

B. Ready-Mixed Concrete

Ready-mixed concrete shall conform to ASTM C94, Alternate 2.

C. Water

Water to be used for mixing and curing concrete shall be reasonably clean and free from oil, salt, acid, alkali, chlorides, sugar, vegetable, or other substances injurious to the finished product. Waters from sources approved by the Local Health Department as potable may be used without test. Water requiring testing shall be tested in accordance with the current Method of Test for Quality of Water to be used in Concrete, AASHTO T26.

D. Concrete Curing Compounds

White membrane curing compound for curing concrete shall conform to AASHTO M148, Type 1 clear, or Type 2 white per FDOT Section 925.

E. Premolded Joint Filler

Fiber joint filler shall conform to ASTM D1751. Filler shall be of the thickness, as specified herein, or on the Plans, or as directed by the OWNER'S REPRESENTATIVE.

F. Steel Hook Bolts

Hook bolts shall conform to ASTM A706, or for Grade 60 of ASTM A615, A616, or A617. Hook bolts shall be 5/8-inch diameter, self-tapping.

G. Joint Sealant

Hot-poured type joint sealant shall conform to ASTM D1190.

2.02 MIXES

A. Concrete Mix

1. Concrete shall contain a minimum of six (6) sacks, 94 pounds per sack, of cement per cubic yard and shall yield a minimum compressive strength of 3,400 psi at 28 days.

2. Cement shall be air-entraining Portland cement ASTM C150, Type 1. If high-early strength concrete is desired, Type III is required.

3. High-early concrete can be obtained for small areas by the addition of one sack of cement, Type 1, per cubic yard of concrete.

4. The air content of the concrete shall be 6.0% $\pm$ 1.0% by volume.

5. Maximum slump of the concrete shall be three (3) inches.

6. Ready-mixed concrete in accordance with ASTM C94, Alternate 2, shall be used, unless a written request for other than ready-mixed concrete has been submitted, reviewed and approved by the OWNER'S REPRESENTATIVE.

PART 3 – EXECUTION

3.01 CONTRACTORS VERIFICATION

A. Excavation and Forming

1. Prior to the installation of any concrete, examine the excavation and forms for the proper grades, lines, and levels required to receive the new Work. Ascertain that all excavation and compacted subgrades are adequate to receive the concrete to be installed.

2. Correct all defects and deficiencies before proceeding with the Work.

B. Existing Improvements

1. Investigate and verify location of existing improvements to which the new Work is to be connected.

2. Making necessary adjustment in line and grade to align the new Work with the existing improvements must be approved by the OWNER'S REPRESENTATIVE, prior to any change.

3.02 PREPARATION

A. Forms

1. The forms shall be of wood or metal, straight and free from warp, clean, and of sufficient strength to resist springing during the process of depositing concrete against them. For all items constructed on a radius, the contractor will be required to use flexible forms, unless otherwise permitted by the OWNER'S REPRESENTATIVE.

2. The forms shall be the full depth of the concrete.

3. Placing of these items by machine methods may be allowed with the approval of the OWNER'S REPRESENTATIVE provided that an acceptable finished product, true to line, grade and cross section, is consistently produced.

3.03 INSTALLATION

A. Sidewalks, Sidewalk Ramps, Driveways, and Driveway Approaches

All sidewalks and sidewalk ramps shall be four (4) inches thick except at driveways, where the thickness of the sidewalks shall be six (6) inches. Sidewalks shall be five (5) feet wide unless otherwise noted on Plans, and shall slope 1/4 inch per foot towards the surface drainage side which in general will be towards the center of the road. Normally sidewalks will be located within the right-of-way, parallel the property lines, at a distance of 1-foot from the property line unless otherwise noted on Plans.

Driveways and approaches shall be six (6) inches thick. The width of driveways and driveway approaches shall be as specified on the Plans or as directed by the OWNER'S REPRESENTATIVE.

B. Removal of Existing Curb for Sidewalk Ramps and Driveway Approaches

Construction of sidewalk ramps within street intersections where curbed pavement exists shall conform to the current FDOT Roadway and Traffic Design Standards.

Where there is no proper curb drop for the sidewalk ramp or driveway approach, the CONTRACTOR shall saw cut, to full depth of pavement, and remove a minimum of an 18-inch wide curb and gutter section. When mountable curbs are present, the CONTRACTOR shall remove a 24-inch wide curb and gutter section for the construction of sidewalk ramp, as specified above.

The length of curb and gutter removal shall be determined by the OWNER'S REPRESENTATIVE in the field but shall be at least as wide as the proposed sidewalk ramp plus 1-foot on each side.

The removed curb and gutter section shall be replaced with material, equal to what was removed and seal joint with hot poured rubber asphalt.

The CONTRACTOR shall install 5/8 inch diameter self tapping hook bolts, in the existing concrete pavement as indicated on the Plans prior to placing concrete for the removed curb and gutter section.

C. Placement of Forms

Wood forms, straight and free from warp, of nominal depth may be used for sidewalk sections less than 25 feet in length.

Forms shall be staked to line and grade in a manner that will prevent deflection and settlement.

When unit slab areas are to be poured, slab division forms shall be so placed that the slab division joints will be straight and continuous.

Forms shall be set for sidewalk ramps to provide a grade toward the centerline of the right-of-way in accordance with current standards. The grade shall be uniform, except as may be necessary to eliminate short grade changes.

Forms shall be oiled before placing concrete. Forms shall remain in place at least 12 hours after the concrete is placed. There shall be sufficient forms placed ahead of the pouring operations to maintain uninterrupted placement of concrete.

The use of slip form pavers can be allowed when approved by the OWNER'S REPRESENTATIVE in lieu of the construction system described above.

D. Joints (Curb)

Except for machine placed items, at the option of the contractor, joints may be formed by the use of dummy joints (either formed or sawed) or by the use of sheet metal templates. If sheet metal templates are used they shall be of the dimensions, and shall be set to the lines, shown in the plans. The template shall be held firmly during the placing of the concrete and shall be left in place until the concrete has set sufficiently to hold its shape but shall be removed while the forms are still in place.

For machine placed items, unless an alternate method is approved by the OWNER'S REPRESENTATIVE, contraction joints shall be sawed. The joints shall be sawed as soon as the concrete has hardened to the degree that extensive raveling will not occur and before uncontrolled shrinkage cracking begins.

Contraction joints shall be spaced at intervals of ten (10) feet except where a lesser interval is required for closure, but no section shall be less than four (4) feet.

E. Joints (Sidewalk and driveway)

Transverse and longitudinal expansion and plane-of-weakness joints shall be constructed at the locations specified herein, or as indicated on the Plans or as directed by the OWNER'S REPRESENTATIVE.

The transverse expansion joints shall be placed for the full width and depth of the new Work. The transverse expansion joints placed against any existing pavement shall be a minimum of six (6) inches deep but no less than the thickness of the concrete being placed.

Longitudinal expansion joints shall conform to the same requirements as transverse expansion joints.

Joints shall be constructed true to line with their faces perpendicular to the surface of the sidewalk. The top shall be slightly below the finished surface of the sidewalk. Transverse joints shall be constructed at right angles to the centerline of the sidewalk and longitudinal

joints shall be constructed parallel to the centerline or as directed by the OWNER'S REPRESENTATIVE.

Unless otherwise specified in the Plans or unless directed by the OWNER'S REPRESENTATIVE, when the sidewalk is constructed in partial width slabs, transverse joints in the succeeding slab shall be placed in line with like joints in the adjacent slab. Also in the case of widening existing sidewalks, transverse joints shall be placed in line with like joint in the existing sidewalk.

Transverse expansion joints, 1/2 inch thick, shall be placed through the sidewalk at uniform intervals of not more than 50 feet and elsewhere as shown on the Plans, or as directed by the OWNER'S REPRESENTATIVE.

Expansion joints, 1/2 inch thick, shall also be placed between the sidewalk and back of abutting parallel curb, buildings or other rigid structures, concrete driveways and driveway approaches. When directed by the OWNER'S REPRESENTATIVE, the expansion joint between sidewalks and buildings shall be placed 1-foot from the property line and parallel to it.

Expansion joints, 1-inch thick, shall be placed between sidewalk ramps or driveway approaches and the back of curbs.

Plane-of-weakness joints shall be formed every five (5) feet and shall be produced by use of slab divisions forms extending to the full depth of the concrete or by cutting joints in the concrete, after floating, to a depth equal to 1/4 the thickness of the sidewalk. The cut joints shall not be less than 1/8 inch nor more than 1/4 inch in width and shall be finished smooth and shall be at right angles to the centerline of the sidewalk.

F. Placing and Finishing Concrete

All concrete shall be placed on a prepared, smooth, leveled, rolled and properly compacted base as indicated on the Plans. The surface of the subbase shall be moist with no visible water present prior to placement of the concrete.

The concrete shall be deposited, in a single layer, therein to the depth specified in the Plans or in the Proposal. The concrete shall be thoroughly spaded or vibrated and compacted to fill in all the voids along the forms and joints. The concrete shall be struck off with a strike board until all voids are removed and the surface has the required grade and cross section as indicated on the Plans, or as directed by the OWNER'S REPRESENTATIVE. The surface of the concrete shall be floated just enough to produce a smooth surface free from irregularities. All edges and joints shall be rounded with an edger having a 1/4 inch radius.

The repair of minor defects, the forms for curbs shall be removed within 24 hours after the concrete has been placed, and the minor defect then filled with mortar compound of one part portland cement and two parts fine aggregate. Plastering will not be permitted on the face of the curb, and any rejected curb, curb and gutter, or valley curb shall be removed and replaced without additional compensation.

The final finish for all exposed surfaces of curbs shall be given a finish while the concrete is still green. In general only a brush finish will be required. For any surface areas, however which are still too rough or where other surface defects make additional finishing necessary. The OWNER'S REPRESENTATIVE may require that the curb be rubbed to a smooth surface with a soft brick or wood block, with water used liberally. Also, if necessary further to provide a suitable surface, the OWNER'S REPRESENTATIVE may require additional rubbing, using a thin grout or mortar.

The surface of sidewalks, driveways and approaches shall be broomed to slightly roughen the surface.

The surface of sidewalk ramps shall be textured with a coarse broom transversely to the ramp slope, and shall be coarser roughened than the remainder of the sidewalk.

G. Curing

After finishing operations have been completed and immediately after the free water has left the surface, the surface of the concrete (and sides if slip-forming is used) shall be completely coated and sealed with a uniform layer of white membrane curing compound. The curing compound shall not be thinned. The curing compound shall be applied at the rate of one gallon per 200 square feet of surface.

The concrete shall be continuously cured for 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. Any curing material removed or damaged during the 72 hour period shall be replaced immediately.

After forms are removed, the surfaces exposed shall be cured by placing a berm of moist earth against them or by any of the methods described below, for the remainder of the 72 hour curing period.

1. Burlap shall be placed over the entire exposed surface of the concrete, with sufficient extension beyond each side to insure complete coverage. Adjacent strips shall be overlapped a minimum of six inches. The burlap shall be held securely in place such that it will be in continuous contact with the concrete at all times and no earth shall be permitted between the burlap surfaces at laps or between the burlap and the concrete. The burlap shall be saturated with water before being placed and shall be kept thoroughly wet throughout the curing period.

2. Clear membrane curing compound or white-pigmented curing compound shall be applied by hand sprayer in a single film at a uniform coverage of at least one gallon to each 200 square feet. Any cracks, checks or other defects appearing in the coating shall be recoated immediately. The curing compound shall be thoroughly agitated in the drum prior to application as necessary to prevent settlement of the pigment.

3. Polyethylene sheeting shall be placed over the entire exposed surface of the concrete, with sufficient extension beyond each side to insure complete coverage. Adjacent strips shall be overlapped a minimum of six inches. The sheeting shall be held securely in place such that it will be in continuous contact with the concrete at all times.

H. Backfilling and Compaction

After the concrete has set sufficiently, but not later than three days after pouring, the spaces adjacent to exposed surfaces shall be refilled to the required elevation, with suitable material, which shall be placed and thoroughly compacted in layers not thicker than six inches.

I. Barricades

Suitable barricades and lights shall be placed around all newly poured sidewalks, sidewalk ramps, driveways, driveway approaches and curb and gutter section in order to protect the new Work from damage from pedestrians, vehicles and others until the concrete has hardened.

Barricades shall be left in place for a minimum of two (2) days, except for driveway approaches and curb and gutter section. Barricades shall remain in place for a minimum of three (3) days.

Any concrete that suffers surface or structural damage shall be removed and replaced by the CONTRACTOR at his expense.

J. Protection

1. Against Rain

The CONTRACTOR shall adequately protect the new concrete from the effects of rain before the concrete has sufficiently hardened. For this Work the CONTRACTOR shall have available on the job site at all times enough burlap or 6-mil thick polyurethane film to cover and protect one day's work. When rain appears eminent, all operations shall stop and personnel shall begin covering. As soon as the rain ceases, the concrete shall be uncovered and the surface burlap dragged where necessary. Curing compound shall be applied to any areas where the compound has been disturbed or washed away.

2. Against Cold Weather

If concrete is placed between December 15 and February 15, the CONTRACTOR shall have available on the site sufficient amount of clean, dry straw or hay to cover one (1) days production. If the temperature reaches 40 degrees F and is falling, the hay or straw shall be placed 12 inches thick, immediately after the curing compound is applied.

3. Concrete Temperature Limitations

Concrete shall not be placed when the temperature of the concrete at the point of placement is above 95 degrees F.

K. Cleanup

After the concrete has gained sufficient strength, but no sooner than within 12 hours, the fixed forms shall be removed and the spaces on both sides shall be immediately backfilled with sound earth of topsoil quality. The backfill shall be compacted, leveled and left in a neat, workmanlike condition.

3.04 FIELD QUALITY CONTROL

A. Testing

1. Cores

The OWNER'S REPRESENTATIVE may require that a minimum of two (2) cores be drilled from the sidewalk for each 500 (or fraction thereof) linear foot section placed.

At least one (1) core out of two (2) required will be taken from the sidewalk at the driveway. One (1 core may be required from every 20 (or fraction thereof) driveway approaches or sidewalk ramps installed.

The cores shall be checked for depth and compressive strength. The core drilling and tests shall be done by a testing laboratory designated by the OWNER and at the expense of the OWNER. The testing laboratory shall furnish the OWNER'S REPRESENTATIVE with two (2) certified copies of the test results.

2. Defective Work

In the event the test results on a core indicates a deficiency in either thickness or compressive strength the following adjustments in the unit price for concrete shall be made:

a. Thickness

Under Required Thickness	Percent of Reduction in Unit Price
0" to 1/4"	None
by more than 1/4" but not exceeding 1/2"	20
by more than 1/2" but not exceeding 1"	50
by more than 1"	Remove and Replace

b. Compressive Strength

Under Required Thickness	Percent of Reduction in Unit Price
0 to 150 psi	None
by more than 150 psi but not exceeding 300 psi	20
by more than 300 psi but not exceeding 500 psi	50
by more than 500 psi	Remove and Replace

The area of the deficient core shall be determined by the drilling and testing of two (2) additional cores, one (1) on each side of the deficient core and 20 feet from it when possible. The extra core drilling and testing shall be at the expense of the CONTRACTOR. Reductions due to deficiencies in thickness or compressive strength are additive, that is, if an area is deficient by 3/8 inch and under strength by 200 psi, the total reduction is 20% plus 20% or 40% reduction.

END OF SECTION

SECTION 02305
HORIZONTAL DIRECTIONAL DRILLING WITH HDPE PIPE

PART I – GENERAL

1.01 SECTION INCLUDES

A. Pipeline Materials and Fittings
B. Directional Drilling

1.02 RELATED SECTIONS

A. Section 02140 – Dewatering

1.03 REFERENCES

A. American Water Works Association (AWWA) latest edition:

1. AWWA C901 - Polyethylene Pressure Pipe and Tubing, ½ Inch Through 3 Inch for Water Service

2. AWWA C906 - Polyethylene Pressure Pipe and Fittings, 4 Inch Through 63 Inch for Water Distribution and Transmission

B. Florida Department of Transportation (FDOT):

1. Standard Specifications for Road and Bridge Construction, 2010 or current version, Section 555, Directional Bore.

1.04 ALTERNATE TO TRENCHING

Horizontal Directional Drilling (HDD) shall be used where shown on the contract drawings. HDD may also be used for the installation of the pipeline that runs parallel to the roadways in lieu of open trenching as described in Section 02315, Excavation, Trenching and Backfill. The contractor must submit the information below contained in 1.04, Submittals and prepare a plan view layout which identifies all of the areas (by length) where HDD will be used.

1.05 SUBMITTALS

A. Provide technical data for the equipment, method of installation, and proposed sequence of construction. Provide information on how the bore is to be steered and the information recorded.

B. Provide information showing staging and pipe stringing areas and site access during pipe joining.

C. Submit maintenance of traffic plan.

D. Submit pipe catalog information confirming that pipe, fittings, joints, and other materials conform to the requirements of this Section.

E. Provide record drawings. Include on the drawings pipeline horizontal and vertical data recorded every 20 feet along the pipeline. Pipe slopes shall also be provided.

1.06 QUALIFICATIONS

A. Provide reference documenting successful similar horizontal directional drilling installations by the CONTRACTOR or, if directional drilling is to be done by a subcontractor, provide references of subcontractor. Provide at least 3 references showing location of project, diameter of pipeline directional drilled, and length of bore. Provide contact names and phone numbers for each reference. Conventional trenching experience or jack and bore experience will not be considered applicable.

B. Submit certificates of qualifications for persons fusing polyethylene pipe and fittings. Persons fusing polyethylene pipe and fittings shall have a minimum of 2 years experience fusing pipe and shall have received training on the equipment to be utilized.

PART 2 – PRODUCTS

2.01 BORING EQUIPMENT

The size of the horizontal directional drill rig used shall be the industry standard size needed based on drilling distance, pipe diameter, and soil conditions.

2.02 HIGH DENSITY POLYETHYLENE PIPE (HDPE) AND FITTINGS

A. Polyethylene pipe and fittings 4-30 inch diameter shall be shall be in accordance with AWWA C906, standard code designation PE 3408. Pipe 4-30 inch diameter shall be DR11, PC 160. Pipe 36-40 inch diameter shall be DR 13.5, PC 130. The manufacturer shall certify that the materials used to manufacture pipe and fittings meet these requirements. The pipe sizing shall be in accordance with Ductile Iron Sizing System (DIOD).

B. Polyethylene pipe ½ -3 inch diameter for main line piping shall be polyethylene pipe (not tubing) in accordance with AWWA C901, standard code designation PE 3408, DR 9 (outside diameter based dimension ratio), PC 200.

C. For connecting to other pipes such as DIP and PVC (ductile iron pipe standard), a mechanical flange type Polyethylene Flange Adapters shall be used. Polyethylene Flange Adapters shall be made with sufficient through-bore length to be clamped in a heat fusion joining machine without the use of sub-end holder. This assembly consists of a slip-on metal mechanical joint flange, a polyethylene mechanical joint adapter, bolts and mechanical joint rubber gasket. The polyethylene adaptor shall carry the same pressure rating as the pipe and is butt fused to the pipe end. A stub end must be the same DR rating as the pipe to which it is joined. The slip-on metal flange shall be made from ductile iron. The metal flange shall be drilled to ANSI B16.1/B16.5, Class 125/150 bolt circle pattern. Flange adapter shall be fitted with lap joint flanges pressure rated equal to or greater than the mating pipe. The lap joint flange bore shall be chamfered or radiused to provide clearance to the flange adapter radius. Flange bolts and nuts shall be grade 2 or higher.

2.03 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

4. Sanitary Sewer - green stripe
5. Storm Sewer - no stripes required

PART 3 – EXECUTION

3.01 GENERAL

A. Locate positions of entry and exit pits, establish elevation and horizontal datum for bore head control, and lay out pipe assembly area. Lay out and assemble pipe in a manner that does not obstruct adjacent roads, and commercial or residential activities adjacent to construction areas.

B. Proposed deviations from the borepath due to underground obstructions shall be approved by the Engineer prior to construction.

3.02 DIRECTIONAL DRILLING

A. The installation of pipeline by directional drilling shall be within the limits indicated on the drawings.

B. Install erosion control measures and dewater as required.

C. Steering of the bore shall be performed with a method approved by the boring equipment manufacturer. Such methods include walkover, wire line, wire line with surface grid and other accepted methods. Use a locating and tracking system capable of ensuring that the proposed installation is installed as intended. The locating and tracking system shall provide information on:

a. Clock and pitch information
b. Depth
c. Transmitter temperature
d. Battery status
e. Position (x,y)
f. Azimuth, where direct overhead readings (walkover) are not possible (i.e. subaqueous or limited access transportation facility)

Ensure proper calibration of all equipment before commencing drilling operation. Take and record alignment readings or plot points such that elevations on top of and offset dimensions from the center of the product to a permanent fixed feature are provided. Such permanent fixed feature must have prior approval of the Engineer/Owner. Provide elevations and dimensions at all bore alignment corrections (vertical and horizontal) with a minimum distance between points of 50 feet. Provide a sufficient number of elevations and offset distances to accurately plot the vertical and horizontal alignment of the installed product. A minimum of three elevation and plot points are required.

D. The depth of the directional drilling shall be the minimum necessary to prevent surface heave, unless the drawings require the installation to be at deeper depths.

E. Boring shall be conducted using a mechanical boring head, assisted by and cooled by drilling fluid of low pressure and volume. Material Safety Data Sheets must be provided and approved by the Engineer for all drilling slurry compounds.

F. Back reaming shall be conducted to enlarge and prepare the bore hole for pipe installation.

G. High density polyethylene pipe shall be heat fused and pressure tested as per manufacturer's guidelines before installation in the bore hole. During assembly and prior to pullback, pipe must be laid out in such a way as to minimize interference to pedestrian and vehicular traffic.

3.03 PIPE JOINING

A. Joints between plain end pipes and fittings shall be made by butt fusion, and joints between the main and saddle branch fittings shall be made using saddle fusion using only procedures that are recommended by the pipe and fitting manufacturer. The CONTRACTOR shall ensure that persons making heat fusion joints have received training in the manufacturer's recommended procedure. The CONTRACTOR shall maintain records of trained personnel, and shall certify that training was received not more than 12 months before commencing construction. External and internal beads shall not be removed.

B. Upon request, the manufacturer shall provide training in the manufacturer's recommended butt fusion and saddle fusion procedures to the CONTRACTOR'S installation personnel, and to inspectors representing the OWNER.

C. Mechanical joints are only allowed where joining polyethylene pipe to another material. Mechanical joint couplings shall be fully pressure rated and fully thrust restrained such that when installed in accordance with manufacturer's recommendations, a longitudinal load applied to the mechanical coupling will cause the pipe to yield before the mechanical coupling disjoins. External joint restraints shall not be used in lieu of fully restrained mechanical couplings. Mechanical joints and flange connections shall be installed in accordance with the manufacturer's recommended procedure. Flange faces shall be centered and aligned to each other before assembling and tightening bolts. In no case shall the flange bolts be used to draw the flanges into alignment. Bolt threads shall be lubricated, and flat washers shall be fitted under the flange nuts. Bolts shall be evenly tightened according to the tightening pattern and torque step recommendations of the manufacturer. At least 1 hour after initial assembly, flange connections shall be re-tightened following the tightening pattern and torque step recommendations of the manufacturer. The final tightening torque shall be 100 ft-lbs or less as recommended by the manufacturer.

D. Branch connections to the main shall be made with saddle fittings or tees. Polyethylene saddle fittings shall be saddled fused to the main pipe per Heat Fusion Joining.

E. After pulling pipe, clean exposed ends for installation of fittings.

3.04 PIPE ABANDONMENT

A. In the event of failure to install pipe, retain possession of pipe and remove it from the site. Completely fill borehole with grout to prevent future settlement.

B. If pipe cannot be withdrawn, cut pipe off at least 3 feet below ground surface and cap ends of pipe with blind flange. Fill annular space with grout.

3.05 DISPOSAL OF SURPLUS FLUIDS

A. All drill fluid excess shall be contained in entry and/or exit pits and pumped as needed into additional on-site storage tanks, tanker trucks, vacuum trucks, etc. Dispose of excess drill fluid offsite as allowed by local rules and regulations.

B. Dispose of all material not needed or not suitable for backfilling over or around the entry and receiving pits. The disposal shall be subject to local codes and regulations.

3.06 RESTORATION

After extraction, drill fluids, pits, work areas, staging and storage areas are to be restored to equal or better condition than pre-construction condition.

3.07 TESTING

After pulling pipe into position and grouting, but before attachment of adjacent sections of pipe, test pipeline in accordance with individual pipeline sections.

3.08 PRESSURE AND LEAKAGE TESTING (POLYETHELYNE MAINS)

A. Piping shall be slowly filled with water and all air expelled. Care shall be taken that all air valves are installed and open in the section being filled, and that the rate of filling does not exceed the venting capacity of the air valves.

B. Subject pipeline to be tested to a 4 hour expansion phase prior to commencing leakage testing. Pipeline expansion shall be accomplished by applying hydrostatic test pressure of 100 psi. In order to compensate for the initial expansion of the pipeline, add sufficient make-up water at hourly intervals to return to the required test pressure. At the end of the fourth hour, the test phase is to commence.

C. At the conclusion of the fourth hour of the expansion phase, fill the pipeline again with makeup water to return to the test pressure. The test phase shall consist of a two hour or three hour pressure test, as required by the Engineer. At the end of the test phase, measure the amount of makeup water required to return to the test pressure. The pipeline passes the pressure test if the makeup water required does not exceed the following:

Nominal Pipe Size (In)	Allowable Makeup Water (Gallons / 100 Ft Of Pipeline)	
	Two Hour Test	Three Hour Test
4	0.25	0.40
6	0.60	0.90
8	1.0	1.5
12	2.3	3.4
16	3.3	5.0
18	4.3	6.5
20	5.5	8.0
24	8.9	13.3

D. If any defects or leaks are revealed, they should be corrected and the pipeline retested after a minimum 24 hour recuperation period between tests. Total testing conducted on a section of pipeline shall not exceed 8 hours within a 24 hour period.

E. All apparent leaks discovered within one year from the date of final acceptance of the work by the OWNER shall be located and repaired by CONTRACTOR, regardless of the total line leakage rate.

END OF SECTION

SECTION 02600

FUSIBLE POLYVINYLCHLORIDE PIPE FOR INSTALLATION BY HORIZONTAL DIRECTIONAL DRILL (HDD)

PART I –GENERAL

1.01 DESCRIPTION

A SCOPE

1. This section specifies fusible polyvinylchloride pipe, including standards for dimensionality, testing, quality, acceptable fusion practice, safe handling, storage and installation of the pipe by horizontal directional drilling, directional boring, or guided boring.

B REQUIREMENTS:

1. Contractor shall provide fusible polyvinylchloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification for installation by horizontal directional drilling.
2. Contractor shall be responsible for all installation processes and procedures associated with the installation by horizontal directional drilling in accordance with this specification.

C PIPE DESCRIPTION

1. Pipe Supplier shall furnish fusible polyvinylchloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification.

1.02 QUALITY ASSURANCE

A REFERENCES:

1. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those other standards are included as references under this section as if referenced directly. In the event of a conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
2. Unless otherwise specified, references to documents shall mean the documents in effect at the time of design, bid, or construction, whichever is earliest. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.
3. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI/AWWA C110/A21.10	American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids
ANSI/AWWA C111/A21.11	American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
ANSI/AWWA C153/A21.53	AWWA Standard for Ductile-Iron Compact Fittings for Water Service
AWWA C605	Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
AWWA C651	Standard for Disinfecting Water Mains
AWWA C900	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 12 in. (100mm Through 300mm), for Water Distribution
AWWA C905	Standard for Polyvinyl Chloride (PVC Pressure Pipe and Fabricated Fittings, 14 in. through 48 in. (350mm Through 1200mm), for Water Distribution and Transmission
AWWA M23	AWWA Manual of Supply Practices PVC Pipe—Design and Installation, Second Edition
ASTM C923	Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals
ASTM D1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2152	Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
ASTM D2241	Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR)
ASTM D2665	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
ASTM D3034	Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F679	Standard Specification for Poly(Vinyl Chloride) (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings
ASTM F1057	Standard Practice for Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique
ASTM F1417	Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
UNI-B-6	Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe
UNI-PUB-08	Tapping Guide for PVC Pressure Pipe
NSF-14	Plastics Piping System Components and Related Materials
NSF-61	Drinking Water System Components--Health Effects
PPI TR-2	PVC Range Composition Listing of Qualified Ingredients

B MANUFACTURER REQUIREMENTS

1. All piping shall be made from PVC compound conforming to cell classification 12454 per ASTM D1784.

C FUSION TECHNICIAN REQUIREMENTS

1. Fusion Technician shall be fully qualified by the pipe supplier to install fusible polyvinylchloride pipe of the type(s) and size(s) being used. Qualification shall be current as of the actual date of fusion performance on the project.

D SPECIFIED PIPE SUPPLIERS

1. Fusible polyvinylchloride pipe shall be used as manufactured under the trade names Fusible C-900®, Fusible C-905®, and FPVC®, for Underground Solutions, Inc., Poway, CA, (858) 679-9551. Fusion process shall be as patented by Underground Solutions, Inc., Poway, CA, Patent No. 6,982,051. Owner and engineer are aware of no other supplier of fusible polyvinylchloride pipe that is an equal to this specified pipe supplier and products.

E WARRANTY

1. The pipe shall be warranted for one year per the pipe supplier's standard terms.
2. In addition to the standard pipe warranty, the fusion services shall be warranted for one year per the fusion service provider's standard terms.

F PRE-CONSTRUCTION SUBMITTALS

1. The following PRODUCT DATA is required from the pipe supplier and/or fusion provider:
   1) Pipe Size
   2) Dimensionality
   3) Pressure Class per applicable standard
   4) Color
   5) Recommended Minimum Bending Radius
   6) Recommended Maximum Safe Pull Force
   7) Fusion technician qualification indicating conformance with this specification
2. The following WORK PLAN AND INFORMATION is required from the contractor and/or horizontal directional drilling Contractor. This WORK PLAN AND INFORMATION shall also be supplied to the pipe supplier, should it be requested:
   1) Work plan shall include for each HDD installation any excavation locations and dimensions, interfering utilities, bore dimensions and locations including bend radii used, and traffic control schematics.
   2) A project safety and contingency plan which shall include but shall not be limited to drilling fluid containment and cleanup procedures, equipment and plan for compromised utility installations including electrical and power lines, water, wastewater and any other subsurface utility in the area.
   3) An HDD schedule identifying daily work hours and working dates for each installation.

G POST-CONSTRUCTION SUBMITTALS

1. The following AS-RECORDED DATA is required from the contractor and/or fusion provider to the owner or pipe supplier upon request:
   1) Approved datalogger device reports

2) Fusion joint documentation containing the following information:

a) Pipe Size and Thickness

b) Machine Size

c) Fusion Technician Identification

d) Job Identification

e) Fusion Joint Number

f) Fusion, Heating, and Drag Pressure Settings

g) Heat Plate Temperature

h) Time Stamp

i) Heating and Cool Down Time of Fusion

j) Ambient Temperature

3) As-recorded Information

a) The as-recorded plan and profile will reflect the actual installed alignment, and reflect the horizontal offset from the baseline and depth of cover.

b) All fittings, valves, or other appurtenances will also be referenced and shown.

c) A daily project log, along with tracking log sheets, should they be used, shall be provided. Tracking log sheet data, should it be employed, shall include any and all that apply, including inclination, depth, azimuth, and hydraulic pull-back and rotational force measured.

PART 2 - PRODUCTS

2.01 FUSIBLE POLYVINYLCHLORIDE PRESSURE PIPE FOR POTABLE WATER

A Fusible polyvinylchloride pipe shall conform to AWWA C900, AWWA C905, ASTM D2241 or ASTM D1785 for standard dimensions, as applicable. Testing shall be in accordance with the referenced AWWA standards for all pipe types.

B Pipe shall be Class 235, meeting the requirements of Dimension Ratio (DR) 18 with ductile iron outside diameters.

C Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

D Fusible polyvinylchloride pipe shall be manufactured in a standard 40’ nominal length, or custom lengths as specified.

E Fusible polyvinylchloride pipe shall be blue in color for potable water use.

F Pipe shall be marked as follows:

1. Nominal pipe size
2. PVC
3. Dimension Ratio, Standard Dimension Ratio, or Schedule
4. AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable
5. AWWA standard designation number, or pipe type for non-AWWA pipe, as applicable

6. NSF-61 mark verifying suitability for potable water service
7. Extrusion production-record code
8. Trademark or trade name
9. Cell Classification 12454 and/or PVC material code 1120 may also be included

G Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

2.02 FUSION JOINTS

A Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed as described in this specification.

2.03 CONNECTIONS AND FITTINGS FOR PRESSURE APPLICATIONS

A Connections shall be defined in conjunction with the coupling of project piping, DUCTILE IRON MECHANICAL AND FLANGED FITTINGS

Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard ductile iron fittings conforming to AWWA/ANSI C110/A21.10, or AWWA/ANSI C153/A21.53 and AWWA/ANSI C111/A21.11.

1. Connections to fusible polyvinylchloride pipe may be made using a restrained or non-restrained retainer gland product for PVC pipe, as well as for MJ or flanged fittings.
2. Bends, tees and other ductile iron fittings shall be restrained with the use of thrust blocking or other means as indicated in the construction documents.
3. Ductile iron fittings and glands must be installed per the manufacturer's guidelines.
4. If required, linings for Ductile Iron fittings shall meet the following requirements for the following service environments:
   1) Potable Water:
      a) Liquid Epoxy shall be 100% solids liquid epoxy, Tnemec Epoxyline Series FC22.
      b) Polyurethane shall be DuraShield 210-61 or 310-61.
5. If required, coatings for Ductile Iron fittings shall meet the following requirements for buried and/or immersion service duty:
   a) Polyurethane shall be DuraShield 210 or 310.
   b) Liquid Epoxy shall be 100% solids liquid epoxy, Tnemec Epoxyline Series FC22.
   c) Coal tar epoxy shall be Sherwin Williams Targuard.

B PVC GASKETED, PUSH-ON FITTINGS

Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard PVC pressure fittings conforming to AWWA C900 or AWWA C905.

1. Acceptable fittings for use joining fusible polyvinylchloride pipe other sections of fusible polyvinylchloride pipe or other sections of PVC pipe shall include gasketed PVC, push-on type couplings and fittings, including bends, tees, and couplings as shown in the drawings.
2. Bends, tees and other PVC fittings shall be restrained with the use of thrust blocking

or other restraint products as indicated in the construction documents.

3. PVC gasketed, push-on fittings and mechanical restraints, if used, must be installed per the manufacturer's guidelines.

C FUSIBLE POLYVINYL CHLORIDE SWEEPS OR BENDS

1. Fusible polyvinyl chloride sweeps or bends shall conform to the same sizing convention, diameter, dimensional tolerances and pressure class of the pipe being joined using the sweep or bend.

2. Fusible polyvinyl chloride sweeps or bends shall be manufactured from the same fusible polyvinyl chloride pipe being used for the installation, and shall have at least 2 feet of straight section on either end of the sweep or bend to allow for fusion of the sweep to the pipe installation. There shall be no gasketed connections utilized with a fusible polyvinyl chloride sweep.

3. Standard fusible polyvinyl chloride sweep or bend angles shall not be greater than 22.5 degrees, and shall be used in nominal diameters ranging from 4 inch through 16 inch.

D SLEEVE-TYPE COUPLINGS

1. Sleeve-type mechanical couplings shall be manufactured for use with PVC pressure pipe, and may be restrained or unrestrained as indicated in the construction documents.

2. Sleeve-type couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

E EXPANSION AND FLEXIBLE COUPLINGS

1. Expansion-type mechanical couplings shall be manufactured for use with PVC pipe, and may be restrained or unrestrained as indicated in the construction documents.

2. Expansion-type mechanical couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

F CONNECTION HARDWARE

Bolts and nuts for buried service shall be made of non-corrosive, high-strength, low-alloy steel having the characteristics specified in ANSI/AWWA C111/A21.11, regardless of any other protective coating.

2.04 DRILLING SYSTEM EQUIPMENT

A GENERAL

1. The directional drilling equipment, as a minimum, shall consist of a directional drilling rig of sufficient capacity to perform the bore(s) and pull-back of the pipe(s), a drilling fluid mixing & delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations, and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project. All required equipment shall be included in the emergency and contingency plan as submitted per these specifications.

B DRILLING RIG

1. The directional drilling machine shall consist of a hydraulically powered system to rotate, push and pull drill pipe while delivering a pressurized fluid mixture to a drill head. The machine shall be anchored to withstand the pulling, pushing and rotating forces required to complete the project.

2. The drilling rig hydraulic system shall be of sufficient pressure and volume to power drilling operations. The hydraulic system shall be free from leaks.

3. The drilling rig shall have a system to monitor pull-back hydraulic pressure during pull-back operations.

C DRILL HEAD

1. The horizontal directional drilling equipment shall produce a stable fluid lined tunnel with the use of a steer-able drill head and any subsequent pre-reaming heads.

2. The system must be able to control the depth and direction of the drilling operation.

3. Drill head shall contain all necessary cutters and fluid jets for the operation, and shall be of the appropriate design for the ground medium being drilled.

D DRILLING FLUID SYSTEM

1. DRILLING FLUID (DRILLING MUD)

a) Drilling fluid shall be composed of clean water and the appropriate additive(s) for the fluid to be used. Water shall be from a clean source and shall meet the mixing requirements of the mixture manufacturer(s).

b) The water and additives shall be mixed thoroughly to assure the absence of any clumps or clods. No hazardous additives may be used.

c) Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of bore wall(s).

d) Drilling fluid shall be disposed of off-site in accordance with local, state and federal requirements and/or permit conditions.

e) No additional chemicals or polymer surfactants shall be allowed to be added to the drilling fluid unless they have been submitted per this specification.

2. MIXING SYSTEM

a) A drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid for the project.

b) The mixing system shall be able to ensure thorough mixing of the drilling fluid. The drilling fluid reservoir tank shall be sized for adequate storage of the fluid.

c) The mixing system shall continually agitate the drilling fluid during drilling operations.

3. DRILLING FLUID DELIVERY AND RECOVERY SYSTEM

a) The drilling fluid pumping system shall have a minimum capacity to supply drilling fluid in accordance with the drilling equipment pull-back rating at a constant required pressure.

b) The delivery system shall have filters or other appropriate in-line equipment to prevent solids from being pumped into the drill pipe.

c) Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and properly disposed of. The use of spill containment measures shall be maintained around drill rigs, drilling fluid mixing system, entry and exit pits and drilling fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps, vacuum truck(s), and/or storage of sufficient size shall be in place to contain excess drilling fluid.

d) A closed-loop drilling fluid system and a drilling fluid cleaning system should be used to whatever extent practical, depending upon project size and conditions. Under no circumstances shall drilling fluid that has escaped containment be

reused in the drilling system.

E DRILLING CONTROL SYSTEM

1. Calibration of the electronic detection and control system shall be verified prior to the start of the bore.
2. The drilling head shall be remotely steer-able by means of an electronic or magnetic detection system. The drilling head location shall be monitored in three dimensions:
   a) Offset from the baseline,
   b) Distance along the baseline, and
   c) Depth of cover.
3. Point of rotation of the head shall also be monitored.
4. For gravity application and on-grade drilling, sonde/beacon or approved equipment applicable for grade increments of 1/10th of one percent shall be used.

2.05 PIPE PULL HEADS

A Pipe pull heads shall be utilized that employ a positive through-bolt design assuring a smooth wall against the pipe cross-section at all times.

B Pipe pull heads shall be specifically designed for use with fusible polyvinylchloride pipe, and shall be as recommended by the pipe supplier.

2.06 PIPE ROLLERS

A Pipe rollers, if required, shall be of sufficient size to fully support the weight of the pipe during handling and pullback operations.

B A sufficient quantity of rollers and spacing, per the pipe supplier's guidelines shall be used to assure adequate support and excessive sagging of the product pipe.

PART 3 – EXECUTION

3.01 DELIVERY AND OFF-LOADING

A All pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the owner or engineer.

B Each pipe shipment should be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Notify owner or engineer immediately if more than immaterial damage is found. Each pipe shipment should be checked for quantity and proper pipe size, color, and type.

C Pipe should be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.

D Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.

E During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.

F If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to insure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped, from trucks.

3.02 HANDLING AND STORAGE

A Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the owner or engineer.

B Any scratch or gouge greater than 10% of the wall thickness will be considered significant and can be rejected unless determined acceptable by the owner or engineer.

C Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the ends of the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.

D Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.

E If pipe is to be stored for periods of 1 year or longer, the pipe should be shaded or otherwise shielded from direct sunlight. Covering of the pipe which allows for temperature build-up is strictly prohibited. Pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excess heat accumulation.

F Pipe shall be stored and stacked per the pipe supplier's guidelines.

3.03 FUSION PROCESS

A GENERAL

1. Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.

2. Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.

3. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine.

4. Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process. Fusion machines must incorporate the following elements:

a) HEAT PLATE - Heat plates shall be in good condition with no deep gouges or scratches. Plates shall be clean and free of any debris or contamination. Heater controls shall function properly; cord and plug shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of pipe being fused, per the pipe supplier's guidelines.

b) CARRIAGE – Carriage shall travel smoothly with no binding at less than 50 psi. Jaws shall be in good condition with proper inserts for the pipe size being fused. Insert pins shall be installed with no interference to carriage travel.

c) GENERAL MACHINE - Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.

d) DATA LOGGING DEVICE – An approved datalogging device with the current version of the pipe supplier's recommended and compatible software shall be

used. Datalogging device operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110V power source shall be available to extend battery life.

5. Other equipment specifically required for the fusion process shall include the following:

   a) Pipe rollers shall be used for support of pipe to either side of the machine

   b) A weather protection canopy that allows full machine motion of the heat plate, fusion assembly and carriage shall be provided for fusion in inclement, extreme temperatures, and /or windy weather, per the pipe supplier's recommendations.

   c) An infrared (IR) pyrometer for checking pipe and heat plate temperatures.

   d) Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.

   e) Facing blades specifically designed for cutting fusible polyvinylchloride pipe shall be used.

B JOINT RECORDING

Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine. The fusion data logging and joint report shall be generated by software developed specifically for the butt-fusion of fusible polyvinyl chloride pipe. The software shall register and/or record the parameters required by the pipe supplier and these specifications. Data not logged by the data logger shall be logged manually and be included in the Fusion Technician's joint report.

3.04 DRILLING OPERATIONS

A GENERAL

1. Bore path and alignment are as indicated in the contract documents. The path of the bore may be modified based on field and equipment conditions. Entry and exit locations and control-point elevations shall be maintained as indicated in the contract documents.

2. Bend radii shown in the contract documents are minimum allowable radii and shall not be reduced.

B LOCATION AND PROTECTION OF UNDERGROUND UTILITIES

1. Correct location of all underground utilities that may impact the HDD installation is the responsibility of the Contractor, regardless of any locations shown on the drawings or previous surveys completed.

2. Utility location and notification services shall be contacted by the Contractor prior to the start of construction.

3. All existing lines and underground utilities shall be positively identified, including exposing those facilities that are located within an envelope of possible impact of HDD installation as determined for the project specific site conditions. It is the Contractor and HDD system operator's responsibility to determine this envelope of safe offset from existing utilities. This will include, but is not limited to, soil conditions and layering, utility proximity and material, HDD system and equipment, and foreign subsurface material.

C SITE LOCATION PREPARATION

1. Work site as indicated on drawings shall be graded or filled to provide a level working area. No alterations beyond what is required for operations are to be made

2. Contractor shall confine all activities to designated work areas.

D DRILLING LAYOUT AND TOLERANCES

1. The drill path shall be accurately surveyed with entry and exit areas placed in the appropriate locations within the areas indicated on drawings. If using a magnetic guidance system, drill path will be surveyed for any surface geomagnetic variations or anomalies.

2. Instrumentation shall be provided and maintained at all times that accurately locates the pilot hole, measures drill-string axial and torsional loads and measures drilling fluid discharge rate and pressure.

3. Entry and exit areas shall be drilled so as not to exceed the bending limitations of the pipe as recommended by the pipe supplier.

E PILOT HOLE BORE

1. Pilot hole shall be drilled along bore path. In the event that the pilot bore does deviate from the bore path, it may require contractor to pull-back and re-drill from the location along bore path before the deviation.

2. The Contractor shall limit curvature in any direction to reduce force on the pipe during pull-back. The minimum radius of curvature shall be no less than that specified by the pipe supplier and as indicated on the drawings.

F REAMING

1. After successfully completing the pilot hole, the bore hole shall be reamed to a diameter which meets the requirements of the pipe being installed. The following table is offered as an estimated guide:

Nominal Pipe Diameter	**Bore Hole Diameter**
< 8 inches	Pipe Dia. + 4 inches
8 inches to 24 inches	Pipe Dia. X 1.5
> 24 inches	Pipe Dia. + 12 inches

2. Multiple reaming passes shall be used at the discretion of the Contractor and shall conform to this specification.

3. In the event of a drilling fluid fracture, returns loss or other loss of drilling fluid, the Contractor shall be responsible for restoring any damaged property to original condition and cleaning up the area in the vicinity of the damage or loss.

3.05 PIPE PULL-BACK AND INSERTION

A Pipe shall be fused prior to insertion, if the site and conditions allow, into one continuous length.

B Contractor shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not bend past the pipe supplier's minimum allowable bend radius, buckle, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.

C The pipe entry area shall be graded as needed to provide support for the pipe and to

allow free movement into the bore hole.

1. The pipe shall be guided into the bore hole to avoid deformation of, or damage to, the pipe.
2. The fusible polyvinylchloride pipe may be continuously or partially supported on rollers or other Owner and Engineer approved friction decreasing implement during joining and insertion, as long as the pipe is not over-stressed or critically abraded prior to, or during installation.
3. A swivel shall be used between the reaming head and the fusible polyvinylchloride pipe to minimize torsion stress on the pipe assembly.

D Buoyancy modification shall be at the sole discretion of the Contractor, and shall not exceed the pipe supplier's guidelines in regards to maximum pull force or minimum bend radius of the pipe. Damage caused by buoyancy modifications shall be the responsibility of the Contractor.

E Once pull-back operations have commenced, the operation shall continue without interruption until the pipe is completely pulled through the bore hole.

F The pipe shall be installed in a manner that does not cause upheaval, settlement, cracking, or movement and distortion of surface features. Any damages caused by the Contractor's operations shall be corrected by the Contractor.

3.06 INSTALLATION CLEANUP

A Following the installation, the project site shall be returned to a condition equal to or better than the pre-construction condition of the site. All excavations will be backfilled and compacted per the construction documents and jurisdictional standards. All pavement and hardscape shall be repaired per applicable jurisdictional standards, excess materials shall be removed from the site, and disturbed areas shall be re-landscaped. All drilling fluid shall be properly disposed of per these specifications and all applicable jurisdictional laws.

B Contractor shall verify that all utilities, structures, and surface features in the project area are sound.

3.07 PREPARATION PRIOR TO MAKING CONNECTIONS INTO EXISTING PIPING SYSTEMS

A Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the contractor shall:

1. Field verify location, size, piping material, and piping system of the existing pipe.
2. Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.
3. Have installed all temporary pumps and/or pipes in accordance with established connection plans.

B Unless otherwise approved, new piping systems shall be completely assembled and successfully tested prior to making connections into existing pipe systems.

3.08 PIPE SYSTEM CONNECTIONS

A Pipe connections shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines and as indicated in the construction documents. Pipe connections to structures shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines.

B If possible, pipe installed via HDD shall be filled with water prior to making any connections to the existing system or other portions of the project.

3.09 TAPPING FOR POTABLE AND NON-POTABLE WATER APPLICATIONS

A Tapping shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C605. Tapping shall be performed only with use of tap saddles or sleeves. NO DIRECT TAPPING WILL BE PERMITTED. Tapping shall be performed in accordance with the applicable sections for Saddle Tapping per Uni-Pub-8.

B All connections requiring a larger diameter than that recommended by the pipe supplier, shall be made with a pipe connection as specified and indicated on the drawings.

C Equipment used for tapping shall be made specifically for tapping PVC pipe:

1. Tapping bits shall be slotted "shell" style cutters, specifically made for PVC pipe. 'Hole saws' made for cutting wood, steel, ductile iron, or other materials are strictly prohibited.

2. Manually operated or power operated drilling machines may be used.

D Taps may be performed while the pipeline is filled with water and under pressure ('wet' tap,) or when the pipeline is not filled with water and not under pressure ('dry' tap).

3.10 TESTING

A Testing shall comply with all applicable jurisdictional building codes, statutes, standards, regulations, and laws.

B HYDROSTATIC TESTING AND LEAKAGE TESTING FOR PRESSURE PIPING

1. Hydrostatic and leakage testing for piping systems that contain mechanical jointing as well as fused PVC jointing shall comply with AWWA C605.

2. Unless agreed to or otherwise designated by the owner or engineer, for a simultaneous hydrostatic and leakage test following installation, a pressure equal to 150% of working pressure at point of test, but not less than 125% of normal working pressure at highest elevation shall be applied. The duration of the pressure test shall be for two (2) hours.

3. If hydrostatic testing and leakage testing are performed at separate times, follow procedures as outlined in AWWA C605.

4. In preparation for pressure testing the following parameters must be followed:

1) All air must be vented from the pipeline prior to pressurization. This may be accomplished with the use of the air relief valves or corporation stop valves, vent piping in the testing hardware or end caps, or any other method which adequately allows air to escape the pipeline at all high points. Venting may also be accomplished by 'flushing' the pipeline in accordance with the parameters and procedures as described in AWWA C605.

2) The pipeline must be fully restrained prior to pressurization. This includes complete installation of all mechanical restraints per the restraint manufacturer's guidelines, whether permanent or temporary to the final installation. This also includes the installation and curing of any and all required thrust blocking. All appurtenances included in the pressure test, including valves, blow-offs, and air-relief valves shall be checked for proper installation and restraint prior to beginning the test.

3) Temporary pipeline alignments that are being tested, such as those that are partially installed in their permanent location shall be configured to minimize the amount of potentially trapped air in the pipeline.

C DISINFECTION OF THE PIPELINE FOR POTABLE WATER PIPING

1. After installation, the pipeline, having passed all required testing, shall be disinfected

prior to being put into service. Unless otherwise directed by the owner or engineer, the pipeline will be disinfected per AWWA C651.

D PARTIAL TESTING

1. Segments of the pipe may be tested separately in accordance with standard testing procedure, as approved by the owner and engineer. Testing of each HDD installation prior to connection to the system or other piping is preferred.

END OF SECTION

SECTION 02660
WATER MAIN

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes all water main Work complete with water main piping, valves, hydrants, thrust blocks, valve wells, structures, fittings, joints, joint materials, nuts, bolts, glands, gaskets, plugs and accessories as shown and required. This Section also includes bedding and laying of water main piping, hydrostatic testing of new water main piping systems, and flushing and chlorination of water main piping systems.

B. Related Work Specified Elsewhere

1. Measurement and Payment: Section 01025

2. Dewatering: Section 02140

3. Trenching, Backfilling and Compacting: Section 02226

4. Mortar and Grout: Section 03600

C. City of Venice Standard Details

Many water main components are specified on the plans in the City of Venice standard Potable Water Details. In the event of a discrepancy between this specification and the standard details, the standard details shall prevail.

1.02 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies

1. Cleaning and Disinfection

Conform to the applicable requirements of state and local health authorities having jurisdiction for disinfection and testing.

B. Reference Standards

Unless otherwise specified, the Work of this Section shall conform to the applicable portions of the following Standard Specifications:

ANSI- American National Standards Institute

ASTM- American Society for Testing and Materials

AWWA- American Water Works Association

FDOT- Florida Department of Transportation

NSF- National Sanitation Foundation

1.03 SUBMITTALS

A. Schedules

1. Tabulated Laying Schedule

Where concrete water main pipe is used in the water main Work, a Tabulated Laying Schedule, showing stationing, deflection, elevation, slope and description of pieces shall be submitted to the OWNER'S REPRESENTATIVE. Pipe manufacture shall not be started until the laying schedule has been reviewed by the OWNER'S REPRESENTATIVE.

2. Corporation Stops (Tapping Outlets)

A complete schedule of all tapping outlets installed in water main piping shall be kept by the CONTRACTOR and submitted to the OWNER'S REPRESENTATIVE at the end of each water main piping section of the Project or on the last day of each week, whichever occurs first.

B. Affidavits

1. Butterfly Valves

Submit manufacturer affidavit showing compliance with AWWA C504, where applicable.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials

1. Concrete Pipe

Provide two (2) percent of pipe lengths to be delivered as short pieces with a length ten (10) feet or less. These short pieces shall be in addition to those required under the Tabulated Laying Schedule.

B. Storage of Materials

1. Water Main Piping

Pipe shall be stored in a manner to minimize infiltration of dirt, debris and other extraneous materials.

Piping materials shall not be stacked higher than four (4) feet. Suitable racks, chairs and other supports shall be provided to protect preformed pipe mating surfaces from damage. Store bottom tiers off the ground, alternate tiers and chock tier ends.

2. Hydrants, Valves and Accessories

Store all hydrants, valves, wells and prefabricated structures off the ground, drained and kept free of water to protect against damage. Hydrants, valves, wells, their accessories and appurtenances shall be kept in their original containers until ready for installation.

3. Gasket, Glands, and Seals

All joint and sealing materials subject to ultra-violet or ozone attack and used in the water main system shall be protected from the sunlight, atmosphere and weather, stored in suitable enclosures until ready for installation.

C. Handling of Materials

1. Loading and Unloading

Load and unload piping using suitably approved hoists and skidding. Piping shall not be dropped, bumped or allowed to impact against itself. Damaged piping shall be rejected by the OWNER'S REPRESENTATIVE.

2. Lifting Devices

Lifting devices shall be suited to the Work and shall protect surfaces from damage.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Scope

It is the intent of this Article to specify in detail the various types of pipe, joints, and fittings which have been indicated throughout the Plans and Specifications. This Article shall not be construed as allowing any alternate type of material to that which is indicated on the Plans or elsewhere in the Specifications.

B. Ductile Iron Piping Systems

1. Ductile Iron Pipe

Pipe shall be ANSI A21.51, with double thickness cement mortar lining and 1-mil thickness minimum of coal tar enamel inside and outside. Pipe shall have a minimum wall thickness class for the pipe nominal inside diameter as indicated on the Plans.

Acceptable manufacturers include: American Cast Iron Pipe Company, US Pipe and Foundry Company or equal.

2. Joints

Mechanical, compression gasket type, conforming to ANSI A21.11 except that slots with the same width as the diameter of the bolt holes in mechanical joints shall not be allowed in the bell flange.

Push-on, compression gasket type conforming to ANSI A21.11 with spigot of pipe marked to visually determine when the spigot is fully seated in the bell of the adjoining section.

Flanges shall have full face neoprene gaskets, 1/8" thick and conform to ANSI B16.1. Galvanized or cadmium plated bolts shall conform to ASTM A449 with nuts conforming to ASTM A563 Grade B. Bolt head and nuts shall be hex. All piping connection bolts and nuts shall be galvanized or cadmium plated.

C. Flexible Joint Piping Systems

1. Pipe

Ductile iron conforming to ANSI A21.51, with double thickness cement mortar lining and 1-mil minimum outside coating of coal tar enamel. Pipe shall have a minimum wall thickness class for the pipe nominal inside diameter as indicated on the Plans.

2. Joints

Flexible, ball and retainer type boltless joint.

D. Cement Mortar Pipe Linings

Cement mortar linings for cast iron and ductile iron pipe shall conform to the requirements of ANSI A21.4 of the thicknesses specified and shall be permanently set prior to the application of any additional pipe coating.

E. Coal Tar Enamel Coatings

1. Primers

AWWA C203, Type A.

2. Coal Tar Enamel

AWWA 203, Type I.

Pipe coatings shall be shop applied. Prime all surfaces. Coal tar enamel coatings shall be hot applied. Coatings shall be applied uniformly over all surfaces and when set, shall be firm, tenacious and tough; shall not sag at 140 degrees F and shall not check or peel at 20 degrees F. Coatings after drying for 48 hours, shall have no deleterious effect upon the quality, color, taste or odor of potable water.

F. Bituminous Paint

Two (2) coats of cold-applied bituminous paint may be applied to the exterior surfaces of ductile iron pipes and fittings in lieu of hot applied coal tar enamel provided all the other requirements of paragraph 2.01.E. of this Section are met. Bituminous paint shall be prepared from coal tar enamel and suitable solvents conforming to AWWA C203, Type I.

G. Polyvinyl Chloride (PVC) Piping Systems

1. Pipe and Couplings

Rigid polyvinyl chloride bell and spigot type pressure pipe and couplings conforming to AWWA C900, for four (4) inches and larger pipe or ASTM D2241 for pipe smaller than four (4) inches, of the types and pressure class indicated on the Plans. Compounds used for production of PVC pipe and components shall be suitable for potable water products as required in Sections 3 and 4 of NSF Standard 14. Spigot end of pipe shall be marked to visually determine when the spigot is fully seated in the bell of the adjoining pipe.

2. Joints

Push-on or mechanical elastomeric gasket type, conforming to ASTM D3139.

3. Fittings

a. Polyvinyl Chloride

Two hundred (200) pound Pressure Class conforming to AWWA C900 of types and sizes indicated on the Plans.

b. Gaskets

Elastomeric seal type conforming to ASTM F477.

c. Lubricants

Manufacturers standard non-toxic conforming to AWWA C900.

H. Service Clamps

The clamps shall be compatible with the main and service lead, with straps of a ductile material to avoid crushing the main out-of-round. A molded gasket of rubber or neoprene shall completely encircle the tapped opening to insure a watertight connection. The use of lead gaskets is not allowed.

I. Restraints, Clamps, Rods, and Ties

1. Cast iron or steel as recommended by pipe manufacturer. Balls and fittings shall be bronze alloy or corrosion protected steel.

J. Structures

Material for water main structures shall conform to the requirements listed below:

1. Concrete Block

ASTM C139, Type II, shape and scored as detailed and as approved.

2. Precast Concrete Units

ASTM C478, circular with circular reinforcement as detailed. Provide lifting holes in precast units where indicated.

3. Covers and Frames

Provide types and sizes as detailed on the Plans. Covers shall be Class 30, ASTM A48 gray iron castings. The castings shall be neatly made and free from cracks, cold sheets, holes and other defects. Surfaces of castings shall be ground to assure proper fit and to prevent rocking. Units shall be frostproof and shall be provided with tapping screws and anchors where indicated on the Plans.

K. Bolts, Studs, and Nuts

Bolts, studs, and nuts shall be as specified on the Plans and shall conform to the requirements of AWWA C500 and the ASTM standards listed below:

Bronze ASTM B98
Steel ASTM A307, Grade B
Cadmium Plating ASTM A165, Grade N.S.
Zinc Coating ASTM A153 or A164, Type G.S.

Tee head bolts and nuts shall be high strength, low alloy steel conforming to ANSI/AWWA C111/A21.11.

L. Granular Material

Granular material shall be material passing a 1-inch sieve and at least 35% retained on a No. 200 sieve and meeting the approval of the OWNER'S REPRESENTATIVE.

PART 3 – EXECUTION

3.01 CONTRACTOR'S VERIFICATION

A. Excavation and Bedding

Prior to the installation of any water main piping or materials, examine all trenches and other excavations for the proper grades, lines, levels and clearances required to receive the new Work. Ascertain that all excavation bottoms, compacted subgrades and pipe bedding are adequate to receive water main materials to be installed. Correct all defects and deficiencies before proceeding with the work.

B. Existing Water Mains

Expose the existing water main piping and structures to which the new Work is to be connected and notify the OWNER'S REPRESENTATIVE of the same. The OWNER'S REPRESENTATIVE will verify the vertical and horizontal locations of the existing system and shall inform the CONTRACTOR as to the necessary adjustments required to align the new water main work with the existing system.

3.02 PREPARATION

A. Pipe Ends

Remove all lumps, blisters excess coatings from the socket and plain ends of pipe. Wire brush and wipe clean the outside surfaces of all plain ends and the inside surfaces of all socket ends before installation. Any pipe or fitting which has acquired a coating of mud or other adhesive foreign material shall be scrubbed clean with heavily chlorinated water.

B. Examination of Materials

All pipe fittings, valves, hydrants, accessories and appurtenances shall be examined carefully for damage and other defects immediately before installation. Defective or damaged materials shall be marked and held for inspection by the OWNER'S REPRESENTATIVE. Damaged materials are subject to rejection by the OWNER'S REPRESENTATIVE.

3.03 INSTALLATION

A. General

1. Pipe Cleanliness

Foreign matter shall be prevented from entering the pipe while it is being placed in the trench. During and after laying operations, no debris, clothing or other materials shall be placed in the pipe.

2. Pipe Plugs

During the progress of all water main Work, watertight plugs shall be carried along and inserted in the end of each pipe as it is laid to prevent foreign matter or rodents from entering the pipe. This watertight plug shall be fastened in the end of the water main in such a manner as to prevent it from floating or being otherwise displaced whenever construction operations are temporarily halted, such as at noon or at the end of the day's Work.

3. Pipe Bearing

Each section of pipe, when placed to grade and line, shall have firm bearing on the trench bedding throughout its length between bell holes.

4. Pipe Cutting

Cutting of pipe shall be done with approved tools and by approved methods suitable for the pipe material. Pipe cutting methods that produce a smooth, square cut end without damage to the pipe and that minimize airborne particles, shall be employed. Pipe cutting shall be performed using the recommendations of the manufacturer of the type of pipe materials being cut and according to the best trade practices.

a. Pipe Linings and Coatings

When cutting pipe or fittings, care shall be taken to prevent damage to linings and coatings. Damage to linings shall be cause for rejection of the complete Section. Damage to exterior coatings shall be corrected to original Specifications.

b. Gaskets

Where pipe using a resilient gasket to effect the seal is cut, the cut pipe end shall be tapered at a 30-degree angle with the centerline of the pipe, and ground smooth, on the outside end to remove any sharp edges or burrs which might damage the gasket.

5. Pipe Laying

Unless otherwise specified, pipe shall be laid with bell ends facing in the direction of

laying. After a length of pipe is placed in the trench, the spigot shall be centered in the bell end of the adjacent pipe section, the pipe shoved into position and brought to true alignment and secured with sand tamped under and on both sides of the pipe except at bell holes. Adequate support shall be provided for all water main pipe.

6. Pipe Bedding

After the bottom of the trench has been excavated and filled to the required grade with four (4) inches of bank run sand approved by the OWNER'S REPRESENTATIVE, meeting the requirements of granular material thoroughly compacted by tamping, the pipe shall be installed strictly in accordance with the manufacturer's recommendations. After the pipe is laid, the sand backfill shall be continued to a point 12 inches above the top of pipe barrel. Particular care shall be taken to assure filling and tamping all spaces under, around and above the top of the pipe. Backfill shall be as indicated on the Plans and in the Specifications. A continuous and uniform bedding shall be provided in the trench for all buried pipe.

7. Bolts, Studs, and Nuts

Install bolts, studs, and nuts of the type specified per the manufacturer's installation and torquing requirements. All steel bolts, studs, and nuts shall be painted with bituminous paint after installation.

B. Ductile Iron Pipe

1. Push-On Joints

Joints shall be made by means of a compression type push-on resilient gasket. Gasket shall be pre-lubricated before installation using a lubricant recommended by the pipe manufacturer. The seated joint shall be identified by the visible mark on the spigot of the installed pipe section.

2. Mechanical Joints

Joints shall be made with bolts, molded resilient gasket and ductile iron follower gland. All nuts shall be screwed up finger tight before using a wrench. The gland and rubber gasket shall be brought up evenly at all points around the bell flange and then torqued per the manufacturers recommendations. The normal range of bolt torques to be applied to standard cast iron bolts in a joint and the lengths of wrenches that should satisfactorily produce the ranges of torques are as follows:

Pipe Size	Bolt Size	Range of Torque	Length of Wrench
3 inch	5/8 inches	45-60 ft. lb.	8 inches
4-24 inch	3/4 inches	75-90 ft. lb.	10 inches
30-36 inch	1 inch	100-120 ft. lb.	12 inches
42-48 inch	1-1/4 inches	120-150 ft. lb.	14 inches

Exposed portions of bolts shall be covered with mastic.

3. Flexible Joint Pipe

Flexible joint pipe shall be assembled, handled and installed in accordance with the printed recommendations which accompanies the pipe and is provided by the manufacturer of the piping materials being installed. Methods of handling and installation shall be acceptable to the OWNER'S REPRESENTATIVE.

C. Polyvinyl Chloride Pipe

Polyvinyl chloride pipe shall be laid with gasketed joints in complete accordance with the pipe manufacturer's published instructions. The joints shall be sufficiently lubricated using the pipe manufacturer's recommended lubricant.

Gaskets for pipe joints shall be inserted with the painted edge facing the end of the bell. Each length of pipe shall be pushed home individually. The pipe shall be positioned so that the reference mark on the spigot end is in line with the bell end.

D. Valves, Hydrants, Fittings, and Appurtenances

1. Valves

All valves shall be installed to the grade, lines, levels and locations indicated on the Plans.

Valve connections shall be as specified for the piping materials used. Valves shall be set with the stem plumb on permanent, firm foundations as indicated on the Plans.

Where required, valves shall be supported with special supports as indicated on the Plans and as approved by the OWNER'S REPRESENTATIVE. Valves shall be installed so as not to receive support from the connecting pipe. In no case shall valve installation be used to bring misaligned pipe into alignment.

2. Hydrants

All hydrants shall be installed plumb to the lines, levels, grades and locations indicated on the Plans. Hydrants shall be set to the established grade, shall have their nozzles parallel to or at right angles to and facing the grade or curb.

Where necessary to adjust for proper hydrant grade and location, the CONTRACTOR shall install additional fitting and spigot pipe between the water main and road box.

The CONTRACTOR shall plumb all hydrants at the time they are set with a plumb line or other means acceptable to the OWNER'S REPRESENTATIVE. Upon substantial completion of cleanup, the CONTRACTOR shall recheck all hydrants for plumb and grade and shall make all adjustments as directed by the OWNER'S REPRESENTATIVE at this time. The Work of constructing fire hydrants shall not be considered complete until these final adjustments for plumb and grade have been made.

3. Relocation of Hydrants

Relocation of hydrants shall include the provision of new hydrant shoes and restraints. Provide all new materials required for hydrant relocation. Reinstall hydrants at the new locations to the lines and levels shown. Make all joint connections to new or existing water mains, joints, couplings, etc. as shown and as required. Provide all anchorage and restraint for a complete installation.

4. Valve Boxes

Install valve boxes to the grade, lines, levels and locations indicated on the Plans.

Valve boxes shall not transmit shock or stress to the valve and shall be set plumb with covers centered over operating nuts and flush with the indicated surface elevations. Valve boxes that shift or fill during backfilling shall be uncovered and reset.

5. Service Clamps

Where service clamps are to be installed, the entire circumference of the main shall be free of all loose material. Installation of the clamp and tapping of the main shall be in accordance with manufacturer's recommendations.

6. Curb Stops

Install curb stops of the types and sizes indicated on the Plans.

7. Fittings, Strapping, and Lugged Pipe

a. Fittings

Install all fittings to the lines, levels and locations indicated on the Plans. Installation of fittings shall be with the type of joint specified for piping. Fittings shall be provided with restraints as specified herein as indicated on the Plans and as required for a functional installation.

b. Strapping, Lugged Pipe and Fittings

Where indicated on the Plans and as directed by the OWNER'S REPRESENTATIVE, bends in water main piping and piping runs subject to impact reaction shall be secured by means of metal strapping. Install all necessary bands, tie rods, nuts and washers required. No metal strapping shall be used in direct contact with asbestos-cement or polyvinyl chloride pipe.

Where lugged pipe and special fittings are indicated on the Plans, furnish and install all necessary tie rods, nuts and washers.

E. Water Main Structures

Construct water main valve wells and structures to the grades, lines and levels indicated on the Plans and as specified. Structures shall be complete with concrete bases, reinforcing, frames, covers, adjustment rings, etc., as shown and as required for a complete installation. Water main structures shall conform to the dimensions indicated on the Plans and as described below.

1. Concrete Block

Construct concrete block structures in the locations and according to the details on the Plans. The first course of concrete blocks shall be placed on the prepared base or footings in a full bed of mortar. Mortar joints shall be full and close in all courses. Courses shall be level throughout. Stagger joints in adjoining courses by 1/2 the length of the block as nearly as practicable.

Joints shall be uniform in thickness throughout the structures. Strike all joints and properly point to provide true, smooth surfaces.

2. Precast Concrete Units

Construct as detailed on the Plans. Provide mortar joints struck smooth. Provide two (2) to four (4) courses of 8-inch brick at top of structure for future adjustment.

4. Plaster Coat

Cement mortar plaster coat shall be applied to the exterior surfaces of all gate wells and other water main structures indicated on the Plans. Plaster coat shall be 1/2-inch thick and shall be applied to the outer surfaces of the structures.

5. Inlet and Outlet Pipe

Pipe placed in structures for inlet or outlet connections shall extend through the walls and beyond the outside wall surfaces a sufficient distance to allow for complete connections. Openings between pipes and walls shall be sealed with a full bed of cement mortar. Pipe shall be supported by concrete supports.

F. Air Release Assembly

Provide all materials and construct air release assemblies where indicated on the Plans. Install all valves, fittings, caps, plugs and piping as required. Fittings and joint materials used for air release assemblies shall be as specified herein for the water main piping materials used.

G. Blow-Off Assembly

Provide all materials and construct blow-off assemblies where indicated on the Plans. Blow-off assemblies and pipe shall be installed to the lines, levels and elevations shown, install all valves, fittings, reducers, piping, plugs, joints, etc. as detailed. Blow-off assemblies shall be installed on stable, undisturbed earth materials with changes in directions and returns provided with bedding and restraints as indicated on the Plans, as specified herein and as required for a complete installation. Blow-off assemblies shall include valve boxes as detailed.

H. Tapping Valve Assembly

Install all tapping valve assemblies of sizes and to the lines, elevations, locations and details indicated on the Plans. The tapping sleeve shall be assembled around the main, and the tapping performed in strict accordance with the manufacturers recommendations. Tapping shall be accomplished without interruption of service.

I. Anchors, Encasements, and Restraints

Plugs, tees, sleeves, bends, caps, straps and lug piping shall be provided with suitable anchors, encasements and restraints as indicated on the Plans. Anchoring, encasement and restraint methods shall be as detailed. All bearings shall be as shown. Anchors, encasements and restraints shall rest on firm, stable, compacted subgrade and shall be provided for all standard and special fittings.

J. Water Service Lines

1. General

When so indicated on the Plans, the CONTRACTOR shall provide water service lines in accordance with Article 3.03.K.2. and 3.03.K.3. of this Section.

2. New Water Main

a. General

Water service lines shall be installed after the water main has been successfully tested and put into service, including the installation of fire hydrants. The service lines shall be of the type indicated on the Plans, and shall be 3/4 inch diameter unless otherwise indicated on the Plans.

Water service lines shall be provided for all lots or parcels at the locations indicated on the Plans, within these Contract Documents or as directed by the OWNER'S REPRESENTATIVE. Service lines shall extend from the water main to within 1-foot of the limits of a right-of-way or easement at minimum 5-foot depth terminating with a curb stop as specified herein.

b. Installation Method

Water service lines under concrete or asphalt pavements shall be installed by boring or tunneling, unless otherwise indicated on the Plans or directed by the OWNER'S REPRESENTATIVE.

Backfilling of open cut construction shall be in accordance with Section 02226, Trenching, Backfilling, and Compacting, after the service line, including curb stop, has been laid and approved by the OWNER'S REPRESENTATIVE. Prior to backfilling the service line the CONTRACTOR shall request an inspection by the OWNER'S REPRESENTATIVE and obtain approval of the service line.

Alternative methods such as hydraulic jacking; air jetting; piston mole; etc., may be used to install water service lines if approved by the OWNER'S REPRESENTATIVE. The proposed method must be approved by the governmental agency having jurisdiction over the work area and the CONTRACTOR must demonstrate that, in the opinion of the OWNER'S REPRESENTATIVE, the method is suitable for local soil and ground conditions. To be found suitable for local conditions, the method must be demonstrated to perform within acceptable horizontal and vertical accuracy limits, must not compress soil beyond acceptable limits, and must not leave voids in the soil. Water jetting shall not be permitted. Final installation of the service pipe must be in accordance with manufacturer’s recommendations and no joints or fittings shall be allowed under roadway surfaces.

3.

Replacement Water Mains

Existing water mains shall be kept in service until all water services have been connected to the new mains. The CONTRACTOR shall repair all water services damaged during the installation of the new water mains. Only after the new mains have been accepted and put into service, will service connections be made to the new mains.

The connection of existing service lines to the new mains shall be made within the street rights-of-way or within the easements, utilizing the existing curb stops. All existing lead water service lines shall be abandoned and new water service lines installed from the new water main to the existing curb stops.

Backfill, method of construction under pavements, and new water service lines shall be as specified in Article 3.03.K.2. of this Section.

3.04 FIELD QUALITY CONTROL

A. Hydrostatic Testing

After the pipe has been laid and backfilled, the pipe shall be hydrostatically tested for leakage. The CONTRACTOR shall furnish the pump, pipe connection, hydrants, valves and any other necessary apparatus including gages and meters and all personnel necessary for conducting the test. Before applying the test pressure, all air shall be expelled from the pipe. If necessary to accomplish this, taps shall be made at points of higher elevation and afterwards plugged. The test shall be made at a pressure of 150 pounds per square inch gage. The full pressure shall be held for at least one (1) hour for piping under 12-inch inside diameter and for two (2) hours on piping 12-inch inside diameter and larger. Any faulty pipe fitting, gate valves or other accessories which permit leaks during testing shall be replaced by the CONTRACTOR with sound material and the test shall be repeated until specified requirements are met. The maximum permissible leakage measured by water meter from the section of main tested under pressure, shall not exceed a rate of 11 U.S. gallons per inch diameter of main per mile of pipe in 24 hours for each section tested. Test sections will normally not exceed one mile and in the event more than one (1) mile of water main is tested, the permissible leakage will remain at the amount determined for one (1) mile of pipe.

B. Water for Testing

Water for testing shall be obtained from a potable water supply. The CONTRACTOR shall provide all water required at his own expense and shall make all necessary arrangements with the authority which controls the source of water system and shall be governed in his use of water by all rules and regulations imposed thereon by said authority. The CONTRACTOR shall provide and remove temporary connections between the source water system and the mains constructed under this Contract. All temporary connections shall meet the approval of the OWNER'S REPRESENTATIVE, the authority controlling the source water system and Public Health authorities having jurisdiction.

3.05 CLEANING AND DISINFECTION

A. Flushing

After completion of water main installation, flush the new mains, valves, hydrants and appurtenances completely and as acceptable to the OWNER'S REPRESENTATIVE. Heavily chlorinated water discharged from a disinfected system shall be controlled adequately to protect any surface water resource or adjacent property from potential environmental damage, or from creation of a hazard to traffic. Remove and dispose of all temporary

installations at completion of the flushing operation.

After flushing, and prior to final approval of the system, the CONTRACTOR shall pump down all fire hydrants and verify that the hydrant valve is properly seated to prevent the hydrant standpipe from filling with water.

B. Disinfection

After satisfactory hydrostatic testing and flushing of the new water main, disinfect the complete system by introduction of a chlorine-water solution throughout the water main piping. The liquid mixture shall be applied by means of a solution-feed chlorinating device. The chlorine solution shall be applied through a corporation stop at the beginning of the main or valved section thereof. A slow flow of water shall be let into the main approximately at the point of injection of the chlorine solution, at a rate such that the chlorine dosage of the entering water shall be at least 50 parts per million. An open discharge shall be maintained at the far end of the section of main being chlorinated, and the introduction of chlorine solution and water shall continue until the water discharging at the far end shall carry the required dosage of chlorine. As the main is filled with chlorinated water, each outlet from the main shall be opened and sufficient water drawn off to assure that the full dosage of chlorine reaches each outlet. Back pressure causing a reversal of flow in the main being chlorinated shall be prevented, and pressure in the main shall be held down to a point which will make it impossible for chlorinated water to be forced into other sections of the main or water system.

The chlorine treated water shall remain in the main at least 24 hours, and at the end of that time the chlorine residual at pipe extremities and other representative points shall be at least 25 ppm. If the chlorine residual shall be less than 25 ppm at the end of 24 hours, further application of chlorine shall be made and the retention period repeated until the required 25 ppm residual is obtained.

Should the initial treatment of all or any section of the mains, in the opinion of the OWNER'S REPRESENTATIVE, prove ineffective, the chlorination procedure shall be repeated until confirmed tests show that water sampled from the new mains conforms to the foregoing requirements.

The CONTRACTOR shall collect water samples and cause analyses to be made at his own expense. Testing laboratory and sample collection shall meet the approval of public health authorities having jurisdiction.

C. Water for Cleaning and Disinfection

Water for cleaning and disinfection shall be obtained from a potable water supply. The CONTRACTOR shall provide all water required at his own expense and shall make all necessary arrangements with the authority which controls the source of water system and shall be governed in his use of water by all rules and regulations imposed thereon by said authority. The CONTRACTOR shall provide and remove temporary connections between the source water system and the mains constructed under this contract. All temporary connections shall meet the approval of the OWNER'S REPRESENTATIVE, the authority controlling the source water system, and Public Health authorities having jurisdiction.

D. Bacteriological Analysis

Prior to placing a water main in service, not less than two (2) consecutive water samples taken 24 hours apart for bacteriological analysis shall be collected and each analysis shall show results meeting state drinking water standards.

The CONTRACTOR shall collect water samples and cause analyses to be made at his own

expense. Testing laboratory and sample collection shall meet the approval of public agency having jurisdiction.

3.06 PAINTING OF ABOVE-GROUND PIPE AND FITTINGS

A. All above-ground ductile iron pipe and fittings shall be painted upon completion. Acceptable painting systems are as follows.

1. Tnemec
   1st Coat: Tnemec Series 66 (3.0 – 5.0 mils DFT)
   2nd Coat: Tnemec Series 66 (4.0 – 6.0 mils DFT)
   3rd Coat: Tnemec Series 73 (2.5 – 4.5 mils DFT)

2. Carboline
   1st Coat: Hi-Gard Epoxy (4 mils DFT)
   2nd Coat: Carboline 134 H.S. (2.5 mils DFT)
   3rd Coat: Hythane 4600 Series Polyurethane (2.0 mils DFT)

B. All above-ground PVC piping shall be painted upon completion. Acceptable painting systems are as follows.

1. Tnemec
   1st Coat: Tnemec Series 66 (2.5 – 3.5 mils DFT)
   2nd Coat: Tnemec Series 73 (2.0 – 3.0 mils DFT)
   3rd Coat: Tnemec Series 73 (2.0 – 3.0 mils DFT)

2. Carboline
   1st Coat: MultiBond (2 mils DFT)
   2nd Coat: Carboline 134 H.S. (3.5 mils DFT)

C. Color selection shall be by Owner. In general, potable water systems shall be painted blue.

END OF SECTION

SECTION 03600
GROUT & MORTAR

PART I – GENERAL

1.01 DESCRIPTION

A. Scope

This Section includes the preparation and installation of mortar and grout used for bond or primer coats, laying masonry units, caulking pipe joints, general patching, filler between slope protection and riprap, joints in precast structural members and for spaces under leveling plates and equipment bases, supporting structures, grouting dowels and anchor bolts.

B. Definitions

Mortar is a plastic mixture of cementatious materials, admixtures where specified, fine aggregate and water. Grout is mortar of pouring consistency.

1.02 QUALITY ASSURANCE

A. Reference Standards

ACI	American Concrete Institute
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
FDOT	Florida Department of Transportation Standard Specifications for Construction

B. Reference Specifications

The latest or current ACI Standards and Code Requirements for Concrete Masonry Structures. ACI-531, shall govern all mortar and grout work except where otherwise specified herein.

1.03 SUBMITTALS

A. Manufacturers Literature

Manufacturer's literature shall be submitted for premixed materials.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

Materials shall be stored and handled as recommended in ACI 304.

A. Cement

When cement is stored in the open, a floor at least six (6) inches above the ground and a waterproof covering shall be provided and so placed as to insure runoff in case of rain. At the time of its use the cement shall be free from lumps. Cement sacks shall be thoroughly shaken when emptying sacks into the batch.

Cement salvaged by the CONTRACTOR by cleaning sacks mechanically or otherwise, or

from discarded sacks of cement shall not be used.

B. Aggregate

The aggregates are to be furnished, stocked and handled so that uniformity of grading will be obtained at the time of batching. The area on which stockpiles are to be built shall be thoroughly cleaned of all foreign materials and shall be firm, reasonably level, and well drained. No aggregates which have become intermixed prior to proportioning shall be used.

C. Premixed Materials

The premixed mortar or grout shall be stored and handled in strict accordance with the manufacturer's recommendations.

1.05 JOB CONDITIONS

Environmental requirements relative to temperature for mixing and placing mortar or grout shall be in accordance with paragraphs 2.02.E and 3.03.D of this Section.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Premixed

Premixed mortar or grout shall be a complete packaged mixture to which water is to be added at the job site. Mortar and grout shall be nonshrink, nonstaining.

B. Job Mixed

1. Cement

The type of cement to be used shall be as indicated on the Plans or as specified below:

a. Portland cement, Types I, IA or III: ASTM C150.

b. Masonry cement: ASTM C91.

c. Mortar, Type M or S: ASTM C270.

d. Hydrated lime, Type S: ASTM C207.

2. Aggregate

Fine aggregate: Silica sand FDOT 902.

3. Admixtures

Integral waterproofing compounds, accelerators, retarders or other admixtures not definitely mentioned in the Specifications shall not be used in mortar or grout without the approval of the DESIGN PROFESSIONAL. Use no admixtures containing calcium chloride.

C. Water

Water shall be free from oil, acid, alkali, organic matter, and any other deleterious

substances. Water approved by the State Board of Health may be used without testing. Water from other sources shall be tested before using.

2.02 MIXES

A. Premixed

Water shall be added in strict accordance with manufacturer's recommendations to prepare a stiff or plastic mix, depending on workability needed for application.

B. Job Mixed

A mixture of cement, aggregate, water and admixtures, if required, shall be combined in proportions meeting the requirements of FDOT 425 to produce mortar or grout for the use indicated on the Plans and as specified herein.

C. Proportioning

For job mixed mortar and grout the cement and aggregate shall be proportioned by weight for cubic yard batches or by volume for small batches. Shovel method of volume measuring will not be permitted. When materials are measured by volume, water shall be added in amounts necessary for the consistency required for the Work.

D. Mixing

1. Premixed

The mixing of water with packaged premixed mortar or grout shall be in strict accordance with the manufacturer's recommendations.

2. Job Mixed

The minimum mixing time shall be five (5) minutes. The consistency of mortar shall be adjusted to provide the best workability. If the mortar begins to stiffen from evaporation or absorption of a part of the mixing water, the mortar shall be retempered by adding water and remixing. The consistency of the grout shall be such that at the time of placement, it will completely fill all spaces intended to receive grout.

E. Mix Temperature

The temperature of the mix shall be between 40 degrees F and 120 degrees F.

2.03 ACCEPTABLE MANUFACTURERS

Acceptable manufacturers of premixed, nonshrink, nonmetallic grout include: Sonneborn Sonogrout, L and M Construction Chemicals Duragrout, Master Builders Masterflow 713, or equal.

PART 3 – EXECUTION

3.01 CONTRACTORS VERIFICATION

The CONTRACTOR shall verify the elevation of structural member or equipment bases to be grouted, and/or location of anchoring devices as indicated on the Plans or approved Shop Drawings.

3.02 PREPARATION

A. General

Surfaces to receive mortar or grout shall be prepared as follows, unless otherwise specified:

1. Remove latence down to sound concrete.

2. Surface shall be properly wet cured, being free of chemical curing compound, oil, grease, dirt and loose particles.

3. Clean bolt and/or tie holes, anchor bolts and underside of bearing plates.

4. Saturate concrete including holes prior to grouting.

B. Premixed

When a premixed mortar or grout is used, preparation of surfaces shall be in strict accordance with manufacturer's recommendations.

3.03 INSTALLATION

A. General

All mortar and grout shall be used within 2-1/2 hours of initial mixing. No mortar or grout shall be used after it has begun to set.

B. Premixed

Premixed mortar or grout shall be used in strict accordance with the manufacturer's recommendations.

C. Applications

1. Masonry Units

Mortar joints to bond brick or block shall be no less than 3/8 inch and no greater than 2 inch thick. The surface of the joint shall be struck to be flush with the masonry units.

2. Surface Finishing

Nonshrink mortar shall be thoroughly compacted into all voids, holes, honeycombs, or other defects in the finish surface of concrete. The mortar shall be flush with the surrounding concrete and matching in color and texture.

3. Anchoring Devices

Nonshrink, nonstaining mortar or grout shall be placed in the hole provided, then the

anchoring device or dowel shall be set into the grout filled hole. The surface shall be flush with the surrounding concrete. No pressures or loads shall be applied to the anchoring device until the mortar or grout has attained its ultimate strength.

4. Plates and Structural Members

Thoroughly fill the area between the foundation and plate or member with nonshrink, nonmetallic grout. If required, immediately set shims and align plate or member as required. After the grout has set hard remove forms or shims and finish with a capping mortar.

D. Cold Weather

1. General

No masonry units, mortar or grout Work shall be placed in contact with frozen surfaces. No mortar or grout Work shall be performed when the mean air temperature is below 40 degrees F unless the materials are heated and/or the CONTRACTOR provides adequate protection of the Work. All Work shall be protected against freezing for no less than 48 hours after placement.

2. Temperature Requirements

a. General

Application of heat to the materials shall be made in a manner which will keep these materials clean and free from injurious substances.

b. Air Temperature 40 degrees F to 32 degrees F

Sand or mixing water shall be heated to produce mortar temperatures between 40 degrees F and 120 degrees F. Heating of either of the ingredients shall be to a minimum 30 degrees F and a maximum of 160 degrees F. The ideal mortar temperature should be 70 degrees F to 80 degrees F.

c. Air Temperature 32 degrees F to 25 degrees F

Sand and mixing water shall be heated to produce mortar temperatures between 40 degrees F and 120 degrees F. Maintain temperatures of mortar on boards above freezing. Heat sand and water to a minimum 70 degrees F and maximum 160 degrees F.

END OF SECTION

SECTION 10100
PROJECT SIGN

PART I – GENERAL

1.01 GENERAL REQUIREMENTS

A. The CONTRACTOR shall furnish and install two project signs in accordance with the template shown in this section. Location of signs shall be provided by the OWNER.

B. Provide a proposed sign design for review and approval prior to manufacture. Size of sign and lettering shall be as required by OWNER appropriate to usage, minimum size 4'x8'.

C. Signs shall be removed on completion of construction.

PART 2 – PRODUCTS

2.01 PROJECT IDENTIFICAITON SIGN MATERIALS

A. Structure and framing: May be new or used, wood or metal, in sound conditional structurally and suitable for specified finish.

B. Sign surface: Exterior soft plywood with medium density overlay, standard large sized to minimize joints.

C. Paint: Exterior quality.

PART 3 – EXECUTION

3.01 MAINTENANCE

Maintain sign and supports in a neat, clean condition; repair damages to structures, framing, or sign.

3.02 REMOVAL

Remove sign, framing, supports, and foundations at completion of project.

END OF SECTION

SECTION 15623
HIGH-DENSITY POLYETHYLENE (HDPE) PIPE

PART I – GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and install high density polyethylene (HDPE) pipe and fittings as shown on the Drawings and as specified herein.

B. Furnish all labor, materials, equipment and incidentals required and install all transition fittings as shown on the drawings.

1.02 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM D3350 – Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.

2. ASTM F714 – Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.

B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.03 QUALITY ASSURANCE

A. All HDPE pipe and fittings shall be manufactured in strict accordance with AWWA C906 and shall be from a single manufacturer who is fully experienced, reputable and qualified in the manufacture of the polyethylene pipe to be furnished. All HDPE pipe and fittings shall be supplied by a single distributor who is fully experienced, reputable, and qualified with the distribution of the pipe to be furnished. The pipe shall be designed, constructed, and installed in accordance with the best practices and methods and shall comply with these specifications.

B. All HDPE pipe to be installed under this Contract may be inspected at the factory for compliance with this Section by an independent testing laboratory provided by the CONTRACTOR. The manufacturer's cooperation shall be required in these inspections. The cost of these plant inspections of all pipe approved for this Contract, plus the cost of inspection of a reasonable amount of disapproved pipe, will be borne by the CONTRACTOR.

C. Inspection of the pipe may also be made by the Engineer or other representatives of the OWNER after delivery. The pipe shall be subject to rejection at any time on account of failure to meet any of the specified requirements, even though pipes may have been accepted as satisfactory at the place of manufacture. Pipe rejected after delivery shall be marked for identification and shall immediately be removed from the job.

D. Resin Evaluation

1. All incoming resin shall be sampled for conformance testing against test results supplied by the resin manufacturer. Samples shall be taken from the top and bottom of each compartment from every hopper car received. The following conformance tests shall be performed on the sample:

a. Melt Flow Index – ASTM D1238

b. Density – ASTM D1505

c. The results of these tests shall become part of the manufacturer's permanent quality control records.

E. Finished Product Evaluation

1. Each length of pipe produced shall be checked by production staff for the items listed below. The results of all measurements shall be recorded on production sheets that become part of the manufacturer's permanent records.

a. Pipe in process shall be checked visually, inside and out for cosmetic defects (grooves, pits, hollows, etc).

b. Pipe outside diameter shall be measured using a suitable periphery tape to ensure conformance with ASTM F714.

c. Outside diameter, wall thickness, and eccentricity as per ASTM D2122 at a frequency of at least once/hour or once/coil, whichever is less frequent.

d. Pipe length shall be measured.

e. Pipe marking shall be examined and checked for accuracy.

f. Pipe ends shall be checked to ensure they are cut square and clean.

g. Subject inside surface to a "reverse end test" to ensure the pipe is free of oxidation (brittleness).

h. Out of roundness at a frequency of at least once/hour or once/coil whichever is less frequent.

i. Carbon content as per ASTM D1603 at a frequency of at least once per day per extrusion line.

F. Stress Regression Testing

1. The polyethylene pipe manufacturer shall provide certification that stress regression testing has been performed on the specific polyethylene resin being utilized in the manufacture of this product. This stress regression testing shall have been done in accordance with ASTM D2837 and the manufacturer shall provide a product supplying a minimum Hydrostatic Design Basis (HDB) of 1600 psi as determined in accordance with ASTM D2837.

1.04 WARRANTY

A. The pipe manufacturer shall provide a warranty against manufacturing defects of material and workmanship for a period of ten years after the final acceptance of the project by the OWNER. The manufacturer shall replace, at no additional cost to the OWNER, any defective pipe material within the warranty period.

PART 2 – PRODUCTS

2.01 MATERIALS

A. HDPE pipe is a flexible conduit and shall be designed to transfer imposed loads to the surrounding embedment medium. The pipe and fittings shall be free from all defects including indentations, delaminations, cracks, bubbles, pinholes, inclusions or occlusions which, due to their nature, degree, or extent, detrimentally affect the strength and serviceability of the pipe. Any pipe or fittings with such defects that, in the judgment of the Engineer, will affect the strength and serviceability shall be repaired or rejected.

B. HDPE pipe resins shall be high molecular weight, high density polyethylene with a cell classification number of 345434C in accordance with ASTM D3350. Pipe materials shall meet the requirements of Type III, Class C, Category 5, Grade P34 as defined in ASTM D1248, with a standard grade rating of 1600 psi at 73 degrees F. Clean rework material generated by the manufacturer's own production may be used so long as the pipe or fittings produced meet all the requirements of this Section.

C. Polyethylene pipe shall be as manufactured by Chevron Plexco; Phillips Driscopipe; ISCO or equal.

D. The polyethylene compound shall be suitably protected against degradation by ultraviolet light as required by ASTM D1603.

E. The pipes shall have the nominal dimensions shown on the Drawings, and shall meet the requirements of Standard Dimension Ratio (SDR) 17 and pressure class 100 psig. The CONTRACTOR may provide pipe that conforms to either the dimension requirements of the IPS Sizing System (ANSI B36.10) or Ductile-iron sizing system, whichever confers the greater cost benefit to the OWNER. No matter the sizing system selected, the CONTRACTOR shall make all provisions necessary to ensure all connections to existing piping, fittings, valves and other such appurtenances, and newly installed piping, fitting, valves and other such appurtenances will pass required hydrostatic and leakage testing.

F. All polyethylene pipe shall meet the requirements of ASTM F714.

G. The pipe shall be joined with butt, heat fusion joints. All joints shall be made in strict compliance with the manufacturer's recommendations.

H. Pipe shall be furnished in standard laying lengths not exceeding 50-ft.

I. All high density polyethylene pipe and fittings shall be made from the same resin.

J. Fittings shall be fully pressure rated to match the pipe SDR pressure rating. All fittings shall be molded or fabricated by the manufacturer.

2.02 PIPE IDENTIFICATION

A. The following shall be continuously indent printed on the pipe or spaced at intervals not exceeding 5-ft:

1. Name and/or trademark of the pipe manufacturer.

2. Nominal pipe size.

3. Dimension ratio.

4. The letters PE followed by the polyethylene grade in accordance with ASTM D1248, followed by the hydrostatic design basis in 100's of psi, e.g., PE 3408.

5. Manufacturing standard reference, e.g., ASTM F714.

6. A production code from which the date and place of manufacture can be determined.

7. Provide pipe identification labels and directional arrows on all above grade polyethylene duct in accordance with Section 09905.

B. The piping shall have co-extruding color stripes on the exterior service. For pipe 6" and greater, the pipe exterior shall have four stripes equally spaced about the exterior of the pipe. Pipe and tubing less than 76" shall be manufactured entirely in the required color. The color shall be as approved by the Engineer.

PART 3 – EXECUTION

3.01 HANDLING

A. Handling and laying of pipe and fittings shall be in accordance with the manufacturer's instruction and as specified herein.

B. Pipes shall be stored on clean level ground, preferably turf or sand, free of sharp objects that could damage the pipe. Stacking of the polyethylene pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions. Where necessary, due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.

C. Care shall be taken in loading, transporting, and unloading to prevent injury to the pipe. The handling of the pipe shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Fabric or rubber protected slings and straps shall be used when handling pipes. Hooks inserted into the pipe ends, ropes, chains, or cables shall not be used. Two slings spread apart shall be used for lifting each length of pipe. Slings shall not be positioned at butt-fused joints. Pipe or fittings shall not be dropped.

D. All pipe or fittings shall be examined before laying and no piece shall be installed which is found to be defective. The maximum allowable depth of cuts, scratches or gouges on the exterior of the pipe is 10 percent of wall thickness. The interior pipe surface shall be free of cuts, gouges or scratches. Any damage to the pipe shall be repaired as directed by the Engineer. If any defective pipe section is discovered after it has been laid, it shall be removed completely and the ends of the pipeline rejoined, at the CONTRACTOR'S expense.

3.02 LAYING PIPE AND FITTINGS

A. All pipe and fittings shall be thoroughly cleaned before laying, shall be kept clean until they are used in the work and when laid, shall conform to the lines and grades shown on the Drawings with bedding and backfill as shown on the Drawings. Blocking under the pipe will not be permitted.

B. All pipe shall be sound and clean before laying. Good alignment shall be preserved in laying. The deflection shall not exceed that recommended by manufacturer. Fittings, in addition to those shown on the Drawings, shall be provided, if required, for crossing utilities that may be encountered upon opening the trench.

C. When laying is not in progress, including during lunchtime, the open ends of the pipe shall be closed by watertight plugs or other approved means. All plugs shall be OD fitting plugs. No plugs will be allowed that require insertion of the plug into the pipe.

D. When cutting pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe.

E. The pipe shall be joined by the method of thermal butt fusion, as outlined in ASTM D2657. All joints shall be made in strict compliance with the manufacturer's recommendations by a factory qualified joining technician as designated by the pipe manufacturer with a minimum of three years experience with the fusion equipment to be used. On every day butt fusions are to be made, the first fusion of the day shall be a trial fusion. The trial fusion shall be allowed to cool completely, then fusion test straps shall be cut out. The test strap shall be 12" (min) or 30 times the wall thickness in length with the fusion in the center and 1" (min) or 1.5 times the wall thickness in width. Bend the test strap until the ends of the strap touch. If the fusion fails at the joint, a new trial fusion shall be made, cooled completely and tested. Butt fusion of pipe to be installed shall not commence until a trial fusion has passed the bent strap test.

F. Fittings shall be connected to HDPE pipe in accordance with manufacturer's recommendations.

G. Flanged connections shall consist of the following:

1. A high density polyethylene flange adapter, made by the manufacturer from the same resin as the pipe, and fully pressure rated to match the pipe SDR pressure rating, thermally butt-fused to the stub end of the pipe.

2. A Type 316 stainless steel back-up ring fitted to the polyethylene flange adapter and shaped as necessary to suit the outside dimension of the pipe.

3. A full face neoprene gasket, conforming to ANSI B16.21.

4. Corrosion resistant bolts and nuts of Type 316 stainless steel as specified in ASTM A726 and ASTM A307. Bolts shall be tightened alternatively and evenly to the manufacturer's specified torques. After installation a bitumastic coating shall be applied to bolts and nuts.

3.03 BEDDING AND BACKFILL

A. Pipe may be cold (field) bent to a minimum radius of 1.5 times the manufacturer's recommendation. Temporary restraints may be required to maintain the bend while placing the pipe in the trench and placing initial backfill. Temporary blocks or restraints must be removed before installing final backfill, and any voids must be filled with compacted initial backfill material.

B. All HDPE pipe must be at the temperature of the surrounding soil at the time of backfilling and compaction.

C. Vertical pipe deflections shall be checked as soon as practicable after backfill has reached ground elevation. Deflections shall be calculated as:

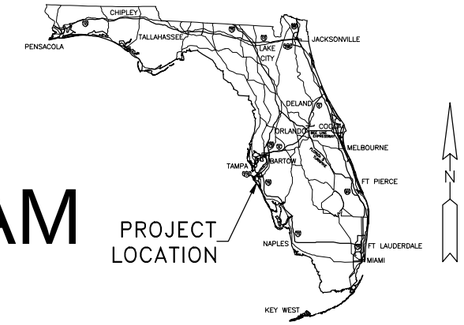
1. $$\text{Percent Deflection} = \frac{(\text{Base ID-Measured Vertical ID})}{\text{Base ID}} \times 100$$

2. A maximum 3 percent deflection will be permitted for SDR 17.

D. Maintain uniform slope between pipe elevations shown on the drawing, and a minimum finished grade cover of 36-in unless otherwise shown on the Drawings.

END OF SECTION

CITY OF VENICE
PHASE 2
WATER MAIN REPLACEMENT PROGRAM
BID SET



KEY MAP
NOT TO SCALE

CITY OF VENICE CITY COUNCIL

JOHN HOLIC	MAYOR
EMILIO CARLESIMO	VICE MAYOR
JIM BENNETT	COUNCIL MEMBER
BOB DANIELS	COUNCIL MEMBER
JEANETTE GATES	COUNCIL MEMBER
KIT McKEON	COUNCIL MEMBER
DAVID SHERMAN	COUNCIL MEMBER

LOCATION MAP
SCALE: 1"=600'

DRAWING INDEX

SHEET	TITLE
G0.00	COVER SHEET
G1.00	LEGEND, ABBREVIATIONS AND CITY STANDARD NOTES
G1.01	GENERAL NOTES
G1.02	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
C1.00	KEY PLAN
C1.01	NORTH – EXISTING WATERMAIN ABANDONMENT SITE PLAN
C1.02	SOUTH – EXISTING WATERMAIN ABANDONMENT SITE PLAN
~~C1.03~~	~~HIGEL DRIVE~~
~~C1.04~~	~~HIGEL DRIVE~~
C1.05	ORMOND STREET & MADRID AVENUE
C1.06	ORMOND STREET, MADRID AVENUE, APALACHICOLA ROAD & CADIZ ROAD
C1.07	MATANZAS STREET & CADIZ ROAD
C1.08	MADRID AVENUE
C1.09	BARCELONA AVENUE
C1.10	BARCELONA AVENUE & MADRID AVENUE
C1.11	BARCELONA AVENUE
C1.12	WEST VENICE AVENUE
C1.13	WEST VENICE AVENUE
C1.14	WEST VENICE AVENUE
C1.15	THE ESPLANADE SOUTH & GRANADA AVENUE
C1.16	GRANADA AVENUE
C1.17	GRANADA AVENUE
C1.18	THE ESPLANADE SOUTH & OCALA STREET
C1.19	THE ESPLANADE SOUTH & CASTILE STREET
C1.20	ALHAMBRA ROAD
C1.21	MENENDEZ STREET & ARMADA ROAD SOUTH
C1.22	VALENCIA ROAD
C1.23	HUNTER DRIVE & GULF MANOR DRIVE
C1.24	ALHAMBRA ROAD & GULF MANOR DRIVE
D1.00	EROSION AND SEDIMENTATION CONTROL DETAILS
D1.01	CITY OF VENICE POTABLE WATER DETAILS
D1.02	CITY OF VENICE POTABLE WATER DETAILS
D1.03	CITY OF VENICE POTABLE WATER DETAILS
D1.04	PAVEMENT AND SIDEWALK DETAILS
D1.05	MAINTENANCE OF TRAFFIC PLAN
D1.06	PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS

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PREPARED UNDER THE SUPERVISION OF:

HOLLY KREMERS, PE

REGISTRATION NO.

ISSUED FOR:
BID DOCUMENTS 04/14/14

811
Know what's below.
Call before you dig.

PROJECT MANAGER:HOLLY KREMERS
C:\PW_WORK\KAHLGRIM\D0437226\GCS-PLTS-VENICE PHS2-G0.00.DWG – G0.00 – PLOTTED 4/14/2014 3:19 PM BY AHLGRIM, KURT
FIELD BOOK INFORMATION:

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EXISTING PROPOSED

CABLE TV

- CABLE TV POLE
- CABLE TV PEDESTAL
- OVERHEAD CABLE TELEVISION — CTV — CTV —
- UNDERGROUND CABLE TELEVISION — UCTV — UCTV —

ELECTRICAL

- CIRCUIT BREAKER PANEL
- HANDHOLE
- MANHOLE
- OUTLET
- PEDESTAL
- TRANSFORMER BOX
- METER
- POWER POLE
- TRANSFORMER TOWER
- OVERHEAD ELECTRIC — E — E —
- UNDERGROUND ELECTRIC — UE — UE —

GAS

- VENT
- BLOW OFF
- FILLER PIPE
- MANHOLE
- METER
- STOP BOX
- SHUTOFF VALVE
- GAS — G — G —

MONUMENTS

- IRON (FOUND)
- IRON (SET)
- BENCH MARK
- BRASS PLATE
- CONCRETE NAIL
- DRILL HOLE
- GOVERNMENT CORNER
- GPS MONUMENT
- IRON PIPE
- MONUMENT BOX
- MONUMENT
- MERE STONE
- NGS MONUMENT
- NAIL & TAG
- PINCH IRON
- PK NAIL
- RAILROAD SPIKE
- RIGHT-OF-WAY MARKER
- SPIKE
- SHIPS SPIKE
- T-IRON
- USGS MONUMENT
- CROSS CUT
- CROSS CUT IN MONUMENT
- WOOD STAKE

OVERHEAD UTILITIES

- DEADMAN ANCHOR
- FLOOD LIGHT
- GUY WIRE ANCHOR
- GUY POLE
- LAMP POLE
- METAL LIGHT POLE
- ORNAMENTAL LIGHT
- POLE BOX
- POWER & LIGHT POLE
- POWER & TELEPHONE POLE
- TELE, CTV, PWR & LIGHT POLE
- TELE, CTV, & POWER POLE
- TELE, & CTV POLE
- TELE, CTV, & LIGHT POLE
- TELE,. & LIGHT POLE
- TELE, POWER, & LIGHT POLE
- UTILITY POLE
- OVERHEAD ELECTRIC
- OVERHEAD CABLE TV & TELEPHONE — CTV&T —
- OVERHEAD ELECTRIC & CABLE TV — E&CTV —
- OVERHEAD ELECTRIC, CABLE TV AND TELEPHONE — E&CTV&T —

EXISTING PROPOSED

SANITARY SEWER

- CLEAN OUT
- PUMPSTATION MANHOLE
- SANITARY MANHOLE
- SEPTIC TANK
- SEWER VENT
- SEWER VALVE
- FORCEMAIN — FM — FM —
- SANITARY SEWER

SITE (MISCELLANEOUS)

- ABANDON ITEM — ABN
- ACCESSIBLE SYMBOL
- ADJUST ITEM — ADJ
- FINISH GRADE — 1234.56 / 1234.56
- FLOW ARROW
- PARKING COUNT — 1
- RECONSTRUCT ITEM — REC
- RELOCATE ITEM — REL
- REMOVE ITEM — REM
- SLOPE LABEL — 1.00%
- SPOT GRADE — 1234.56
- FLOOD LIGHT
- LAMP POLE
- LIGHT POLE (SINGLE LAMP)
- LIGHT POLE (DOUBLE LAMP 180°)
- LIGHT POLE (DOUBLE LAMP 90°)
- LIGHT POLE (THREE LAMP)
- LIGHT POLE (FOUR LAMP)
- ORNAMENTAL LIGHT POLE
- METAL LIGHT POLE

STORM SEWER/DRAINAGE

- CATCH BASIN (ROUND GRATE)
- CATCH BASIN (SQUARE GRATE)
- CISTERN
- BOX CULVERT
- CULVERT HEADWALL
- CULVERT END SECTION
- DOWN SPOUT
- ROUND INLET
- SQUARE INLET
- STORM MANHOLE
- STORM SEWER STUB
- DITCH CENTERLINE
- FLOOD PLAIN — FLP —
- STORM SEWER

TELEPHONE

- TELEPHONE POLE
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- COMMUNICATIONS HANDHOLE
- FIRE CALL
- POLICE CALL
- PHONE BOOTH
- OVERHEAD TELEPHONE — T — T —
- UNDERGROUND TELEPHONE — UT — UT —

TOPOGRAPHIC FEATURES

- AIR CONDITION UNIT UNIT
- ANTENNA
- BASKET BALL POST
- BATTERY BOX
- BILLBOARD SIGN BASE
- CAMERA TOWER
- CLIMBING BARS
- COLUMN
- FENCE CORNER
- FILL PORT
- FLAG POLE
- FOUNTAIN
- GAS PUMP
- GAS TANK (UNDERGROUND)
- HEAT PUMP

EXISTING PROPOSED

TOPOGRAPHIC FEATURES (CONT.)

- HIGHWAY DELINEATOR
- LIGHT POLE BASE
- MAIL BOX
- MERRY-GO-ROUND
- MONITORING WELL
- NEWSPAPER BOX
- OIL WELL
- PARKING METER
- PIER
- PILING
- POST (ROUND)
- POST (SQUARE)
- ROCK
- RAILROAD SIGNAL
- SATELLITE DISH
- SIGN POST
- SLIDE (SPIRAL)
- SLIDE (STRAIGHT)
- SLIDE END
- SLIDE STEPS
- SPRINKLER HEAD
- SPRINKLER JUNCTION BOX
- STATUE
- SWING SET END
- TETHER BALL POLE
- TRAFFIC SIGNAL
- UNDERGROUND MARKER
- U/G MARKER CABLE
- U/G MARKER ELECTRIC
- U/G MARKER FIBER OPTIC
- U/G MARKER GAS
- U/G MARKER TELEPHONE
- VOLLEY BALL POST
- WOOD STAKE

UNDERGROUND UTILITIES

- UTILITY MANHOLE
- FIBER OPTIC — FO — FO —
- OIL — OIL — OIL —
- UNDERGROUND CTV & TELEPHONE — UCTV&T —
- UNDERGROUND ELEC. & CABLE TV — UE&CTV —
- UNDERGROUND ELEC. & TELEPHONE — UE&T —
- UNDERGROUND ELECTRIC, CABLE TV AND TELEPHONE — UE&CTV&T —

VEGETATION

- CONIFEROUS BUSH
- CONIFEROUS TREE
- DECIDUOUS BUSH
- DECIDUOUS TREE
- MULTI-STEM CONIFEROUS TREE
- MULTI-STEM DECIDUOUS TREE
- PALM TREE
- STUMP
- BRUSH LINE
- EDGE OF WOODS
- HEDGE
- TREE ROW

EXISTING PROPOSED

WATER (MISCELLANEOUS)

- RECLAIM WATER GATE VALVE
- SPRINKLER HEAD
- SPRINKLER JUNCTION BOX
- RECLAIM WATER — REC —

LINE WORK

- PROJECT BOUNDARY
- BOUNDARY LINE
- BUILDING
- BUILDING SETBACK
- CHAIN LINK FENCE
- FIELD — F — F —
- GARDEN — GD — GD —
- GRAVEL
- GUARDRAIL
- LANDSCAPE — LS — LS —
- ORNAMENTAL FENCE
- PROPERTY LINE
- RAILROAD TRACK CENTERLINE
- RIGHT OF WAY — R/W —
- SECTION LINE
- SHORE LINE
- SILT FENCE
- TO BE DEMOLISHED
- TOP OF BANK
- UTILITY/DRAINAGE EASEMENT
- WALL
- WETLAND
- WOOD FENCE

WATER (DOMESTIC)

- FIRE PROTECTION SERVICE (DDC) — FPS
- BACKFLOW PREVENTER — BPS
- BLOW-OFF VALVE
- FAUCET
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- GATE VALVE & BOX
- GATE VALVE & WELL
- GATE VALVE & WELL (DETROIT)
- INDICATOR VALVE POST
- METER PIT — MP
- VALVE
- WATER LINE STUB
- WATER TOWER BASE
- WELL
- SHUT OFF VALVE — WSO
- DOMESTIC WATER — W — W —
- DIRECTIONAL DRILL WATER MAIN
- WATER MAIN CAP
- ABANDON WATER MAIN — W — W —

WATER METERS

- ABANDONED WATER METER
- EXISTING WATER IRRIGATION METER
- EXISTING WATER METER
- NEW WATER METER
- NEW IRRIGATION METER
- WATER SERVICE CONNECTION — WSC

EXISTING PROPOSED

PATTERNS

- CONCRETE
- GRAVEL
- PAVEMENT
- EARTH (CROSS SECTION)
- ADA DETECTABLE WARNING
- ADA RAMP
- CONCRETE REMOVAL
- PAVEMENT REMOVAL
- INDICATES LOT TO RELOCATE WATER METER

ABBREVIATIONS

AB	ABANDON OR ABANDONED
AC	ASBESTOS CEMENT
BFP	BACK FLOW PREVENTOR
CI	CAST IRON
DDC	DOUBLE DETECTOR CHECK VALVE
DIP	DUCTILE IRON PIPE
EOP	EDGE OF PAVEMENT
FHA	FIRE HYDRANT ASSEMBLY
FM	FORCE MAIN
FPS	FIRE PROTECTION SERVICE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
MJ	MECHANICAL JOINT
PVC	POLYVINYL CHLORIDE / POLYVINYL CHLORIDE PIPE
SS	SANITARY SEWER
ST	STORM SEWER
VCP	VITRIFIED CLAY PIPE

CITY OF VENICE STANDARD NOTES

1. ALL CONSTRUCTION WITHIN THE CITY OF VENICE SHALL MEET THE APPLICABLE CITY TESTING REQUIREMENTS.
2. A PRE-CONSTRUCTION CONFERENCE SHALL BE CONDUCTED BY EITHER THE PROJECT ENGINEER OF RECORD (EOR) OR CONSTRUCTION MANAGER AT A TIME AND PLACE ACCEPTABLE TO THE CITY ENGINEER, CITY OF VENICE, FOR THE PURPOSE OF OUTLINING CITY STANDARDS, TESTING AND INSPECTION REQUIREMENTS, CITY DEPARTMENT RESPONSIBILITIES, AND OTHER RELATED CONSTRUCTION CONCERNS.
3. THE CITY OF VENICE UTILITY DEPARTMENT WILL OPERATE ALL WATER VALVES.
4. THE CONTRACTOR SHALL INSTALL, PRESSURE TEST AND PERFORM TAPPING AT ALL TAPPING SLEEVES AND VALVES.

REV#	DATE	DESCRIPTION	BY

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WADE TRIM
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813.882.4373 813.882.4495 FAX: 813.888.7215
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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

LEGEND, ABBREVIATIONS AND CITY STANDARD NOTES

Venice, FL City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM - PHASE II

JOB NO. VEN2016.01M

SHEET G1.00

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PROJECT MANAGER:Holly Kremers P.E.
C:\PW_WORK\KAHLGRIM\D0437226\GLS-PLTS-VENICE PHS2-G1.00.DWG - FIELD BOOK INFORMATION:- G1.00 - PLOTTED 4/14/2014 3:19 PM BY AHLGRIM, KURT

REPORT OF SURVEY

1. PROPERTY CORNERS VISIBLE ABOVE GROUND AT THE TIME OF SURVEY WERE LOCATED TO FACILITATE THE ALIGNMENT OF THE SARASOTA COUNTY PROPERTY APPRAISER GEOGRAPHIC INFORMATION SYSTEM (GIS) TO THE FOUND MONUMENTS. PROPERTY AND RIGHT-OF-WAY LINES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY.

2. BEARINGS AND COORDINATES CONTAINED WITHIN THIS ELECTRONIC DRAWING FILE/SURVEY ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, APPLICABLE ZONE, NAD 83 (2007 ADJUSTMENT) AND ARE DERIVED BY MULTIPLE REAL-TTME KINEMATICS GPS OBSERVATIONS.

3. ELEVATIONS SHOWN HEREON ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND ARE BASED UPON REAL-TIME KINEMATICS GPS OBSERVATIONS.

GENERAL NOTES

1. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.

2. THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A FLORIDA REGISTERED SURVEYOR AND MAPPER TO ESTABLISH THE PROPOSED PIPELINE, PROPERTY LINES, RIGHT-OF-WAY LINES, EASEMENTS, BASELINES, BENCH MARKS (ELEVATION), CENTER LINES AND STATIONING AS REQUIRED TO CONSTRUCT THIS PROJECT.

3. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, OTHER FEATURES AND PROPOSED FUTURE WORK ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THERE MAY BE OTHER IMPROVEMENTS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY PRIOR TO BIDDING TO VERIFY THE EXACT LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THESE PLANS) AFFECTING HIS WORK. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR RE-WORK RESULTING FROM FAILURE TO COMPLY WITH THESE INSTRUCTIONS.

4. THE CONTRACTOR SHALL PROVIDE AT LEAST FORTY EIGHT (48) HOURS NOTICE TO ALL EXISTING UTILITY COMPANIES IN ORDER TO ALLOW FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL CONTACT "SUNSHINE STATE ONE CALL" 48 HOURS PRIOR TO OPERATIONS AT 1-800-432-4770.

5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY TO REPORT ANY CONFLICTS BETWEEN WHAT IS SHOWN HEREIN AND ACTUAL CONDITIONS DISCOVERED DURING CONSTRUCTION.

6. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO RESOLVE CONFLICTS THAT MAY ARISE IN THE FIELD DURING CONSTRUCTION.

7. THE CONTRACTOR SHALL COORDINATE WITH THE POWER COMPANY AND OTHER UTILITIES TO OBTAIN SUPPORT FOR UTILITY POLES WHERE CONSTRUCTION MAY CAUSE THE POLE TO LOSE ITS SUPPORT.

8. FIELD CONDITIONS MAY NECESSITATE ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, AS APPROVED BY THE ENGINEER OR THE OWNER'S REPRESENTATIVE.

9. EXISTING UTILITY SERVICE LATERALS ARE NOT SHOWN ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL SERVICE LATERALS PRIOR TO CONSTRUCTION. UTILITY SERVICES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. EXCEPT FOR MINOR SHUT-DOWNS AS AUTHORIZED BY THE CITY.

10. THE CONTRACTOR, WORKING WITH THE ENGINEER AND THE OWNER, SHALL COORDINATE THE SHUTDOWN, STARTUP AND/OR PARTIAL INTERFERENCE WITH ONGOING SYSTEM OPERATIONS. INSTALLATION AND WORK ON THE EXISTING SYSTEMS ARE NOT TO BE MADE DURING TIMES OF PEAK FLOWS. WRITTEN REQUEST SHALL BE PROVIDED 48 HOURS PRIOR TO SHUTTING DOWN ANY WATER MAIN.

11. CONSTRUCTION OF PORTIONS OF THE PROJECT, AUTHORIZED BY PERMIT OR LICENSE AGREEMENT, ARE SUBJECT TO INSPECTION AND TESTS AS MAY BE NECESSARY BY THE PERMIT GRANTING AUTHORITY. ALL CONTRACTOR SUPERVISORY PERSONNEL SHALL FURNISH INFORMATION TO AND COOPERATE WITH THESE AUTHORITIES IN CONDUCTING THEIR TESTING AND INSPECTION PROGRAM.

12. WORK SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE FEDERAL, STATE AND LOCAL AGENCY'S REGULATIONS AND STANDARDS.

13. CONTRACTOR SHALL COMPLY WITH THE "TRENCH SAFETY ACT", CHAPTER 90-96, FLORIDA STATUTES.

14. SIGNS & BARRICADES SHALL BE IN ACCORDANCE WITH LATEST F.D.O.T. MANUAL OF SAFE PRACTICES; REFERENCE F.D.O.T. INDEXES 600 THROUGH 670 AND 17349 PER ROADWAY AND TRAFFIC DESIGN STANDARDS LATEST EDITION.

15. THE CONTRACTOR SHALL NOT ENTER UPON OR IN ANY WAY ALTER ANY WETLAND AREAS THAT MAY BE ENCOUNTERED. ALL WORK IN THE VICINITY OF OPEN WATER AND/OR WETLANDS IS TO BE PERFORMED IN COMPLIANCE WITH THE ENVIRONMENTAL REGULATIONS AND/OR PERMITS FOR THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINE RESULTING FROM HIS VIOLATION OF ANY REGULATIONS OR PERMIT CONDITIONS.

16. SPECIAL PIPE FOUNDATIONS, IF REQUIRED, SHALL BE DETERMINED IN THE FIELD AND THE TYPE REQUIRED WILL BE AS DIRECTED BY THE ENGINEER.

17. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED SHEETING AND TRENCH SHORING REQUIRED TO PROTECT EXISTING UTILITIES AND OTHER FACILITIES INTENDED TO REMAIN IN SERVICE.

18. ALL PROPOSED MAINS SHALL HAVE A MINIMUM COVER OF 36".

19. WATER MAINS SHALL BE INSTALLED AT LEAST 5 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED FORCE MAINS. THE DISTANCE SHALL BE MEASURED FROM FACE TO FACE. VERTICAL SEPARATION BETWEEN WATER MAINS CROSSING OTHER PIPELINES/UTILITIES SHALL BE A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE OUTSIDE OF THE OTHER PIPELINES/UTILITIES AND THE OUTSIDE OF THE WATER MAIN. WHERE THE MINIMUM REQUIRED VERTICAL SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SUCH THAT THE JOINTS OF THE PROPOSED MAIN ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN 10 FEET BETWEEN ANY TWO JOINTS.

20. ALL VALVES SHALL BE APPROPRIATELY TAGGED OR LABELED. ALL PIPING, PIPELINES, VALVES, AND OUTLETS SHALL BE COLOR-CODED BLUE, OR OTHERWISE MARKED, ALL VALVE BOX COVERS SHALL BE MARKED "WATER".

21. JOINT RESTRAINT SHALL BE PROVIDED AT ALL FITTINGS UNLESS NOTED OTHERWISE ON PLANS. THE MINIMUM LINEAR FEET RESTRAINED ON BOTH SIDES OF FITTINGS OR VALVES FOR DUCTILE IRON PIPE SHALL BE AS SHOWN ON THE DETAILS PROVIDED IN THESE DRAWINGS.

22. THE CONTRACTOR SHALL LOCATE ANY POTENTIAL UTILITY CONFLICTS AND PROVIDE FITTINGS AND RESTRAINTS AS NECESSARY AHEAD OF PIPE LAYING OPERATIONS.

23. CONTRACTOR SHALL USE TRENCH BOXES, SHEETING AND OTHER MEANS TO LIMIT THE WIDTH OF THE TRENCH AND AVOID ENCROACHMENT ONTO ADJACENT PROPERTY AND TO MINIMIZE WETLAND IMPACTS.

24. CONTRACTOR SHALL PROVIDE A DECHLORINATION PLAN AND DESCRIPTION OF THE METHODS FOR DISPOSAL TO THE ENGINEER OF RECORD AND CITY OF VENICE FOR APPROVAL. AS A RESULT OF THE DECHLORINATION EFFORTS THERE SHALL BE "NO FISH KILL" PERMITTED WITH THE DISPOSAL.

GENERAL NOTES (CONTINUED)

25. CONTRACTOR SHALL PROVIDE THE CITY OF VENICE WITH 24 HOUR NOTICE PRIOR TO COMMENCING WORK WITHIN THE CITY LIMITS AND 48 HOUR NOTICE PRIOR TO PERFORMING ANY WET TAP TO THE CITY'S WATER DISTRIBUTION SYSTEM.

26. ANY DIGGING AND/OR DISTURBANCE TO THE ROADSIDE SWALES WITHIN THE RIGHT-OF-WAY OF THE CITY OF VENICE SHALL BE PROPERLY GRADED, SODDED AND RESTORED. CONTACT THE CITY OF VENICE PUBLIC WORKS DEPARTMENT.

27. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING SARASOTA COUNTY AND CITY OF VENICE AGENCIES A MINIMUM OF 2 WEEKS IN ADVANCE IN WRITING, OF ANY ROAD CLOSURES, DETOURS AND CONSTRUCTION ACTIVITIES PRIOR TO CONSTRUCTION. THE NOTICE SHALL BE ACCOMPANIED WITH A SCHEDULE OF ROAD CLOSURES AND ANTICIPATED INTERRUPTIONS IN TRAFFIC.

SCHOOL BOARD OF SARASOTA COUNTY
ATTN: MICKI RYAN, PLANNING ANALYST
LONG RANGE PLANNING DEPARTMENT
BLUE AWNING BUILDING - ROOM 106
1960 LANDINGS BOULEVARD
SARASOTA, FLORIDA 34231

PHONE: 941-927-9000
E-MALL: MLCKL_RYAN@SARASOTA.K12.FL.US

UNITED STATE POST OFFICE
ATTN: PHILLIP FLEENER
DELIVERY SUPERVISOR
350 W. VENICE AVE
VENICE, FLORIDA 34285-0001

PHONE: 941-483-4195
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CITY OF VENICE PUBLIC INFORMATION OFFICER
ATTN: PAM JOHNSON
VENICE CITY HALL
401 W. VENICE AVE
VENICE, FLORIDA 34285

PHONE: 941-486-2626 EXT. 24005
E-MALL: PJOHNSON@VENICEGOV.COM

CITY OF VENICE FIRE DEPARTMENT
ATTN: JOE SILVA
BATTALION CHIEF

200 GROVE STREET NORTH
VENICE, FLORIDA 34285

PHONE; 941-480-3030
E-MALL: JSILVA@CI.VENICE.FL.US

CITY OF VENICE CITY OF VENICE SOLID WASTE
ATTN: BOB MORONI
ACTING SOLID WASTE SUPERINTENDENT
221 SEABOARD AVENUE
VENICE, FLORIDA 34285

PHONE; 941-486-2422
E-MALL: BORONIOVENICEGOV.COM

28. THROUGHOUT CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN ALL WEATHER EMERGENCY ACCESS AT ALL ROAD CROSSINGS. THE ACCESS MUST WITHSTAND THE WEIGHT OF A 32 TON FIRE TRUCK.

29. CONTRACTOR SHALL STORE AND PROVIDE PROTECTION FOR ALL COMBUSTIBLE PRODUCTS AND MATERIALS FROM VEHICULAR DAMAGE AND VANDALISM.

30. GROUNDWATER DEWATERING ACTIVITIES ARE NOT COVERED BY THE PROJECT ENVIRONMENTAL RESOURCE PERMIT. THE CONTRACTOR SHALL APPLY TO THE FDEP FOR COVERAGE UNDER THE GENERIC PERMIT FOR THE DISCHARGE OF PRODUCED GROUNDWATER FROM ANY NON-CONTAMINATED SITE ACTIVITY PURSUANT TO 62-621.300 (2), F.A.C. CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED SAMPLING AND TESTING. A COPY OF THE APPROVED PERMIT SHALL BE PROVIDED TO THE AUTHORITY, ENGINEER OF RECORD AND CITY OF VENICE.

31. CONTRACTOR SHALL SIGN THE STORM WATER POLLUTION PREVENTION PLAN PROVIDED ON SHEET G1.02 AND SHALL SUBMIT THE REQUIRED NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (FORM 62-621.300(4)(B)) TO THE FDEP ALONG WITH ANY REQUIRED FEE.

32. PRESSURE MAINS (POTABLE. RECLAIMED. FORCE MAINS)
   a. COMPACTION TESTING SHALL BE PERFORMED EVERY 250 FEET.
   b. PRESSURE TEST (MAIN)
      PRIOR TO TESTING, ALL AIR MUST BE EXPELLED FROM THE PRESSURE MAIN.
      TEST PRESSURE SHALL BE
         WATER (POTABLE AC RECLAIMED) MAINS: 150 PSI
         FORCE (WASTEWATER) MAINS: 100 PSI
      TEST PRESSURE SHALL BE HELD FOR A MINIMUM OF 2 HOURS
      ALLOWABLE LEAKAGE SHALL BE CALCULATED WITH THE FOLLOWING:

$$L = \frac{S * D * \sqrt{P}}{133,200}$$

      L= ALLOWABLE LEAKAGE. GPH
      S= LENGTH OF PIPE TESTED, FT
      D= DIAMETER OF PIPE, IN
      P= AVERAGE TEST PRESSURE, PSI
   c. PRESSURE TEST (TAPPING SLEEVE & VALVE) SHALL BE IN CONFORMANCE WITH DETAIL 5, SHEET D1.01 OF THE DETAILS.
   d. BACTERIOLOGIC TESTING OF POTABLE MAINS SHALL BE COORDINATED THROUGH COV UTILITIES DEPT. AND IN CONFORMANCE WITH STATE OF FLORIDA DEPARTMENT OF HEALTH. BACTERIAL SAMPLE SHALL BE TAKEN BY A CERTIFIED LABORATORY OR FDOH PERSONNEL ONLY.
   e. FOR ALL WATER NEEDED FOR FLUSHING, PRESSURE TESTING OR BACTERIOLOGICAL SAMPLING, PLEASE PROVIDE 48 HOURS ADVANCE NOTICE TO THE CITY OF VENICE UTILITIES DEPARTMENT (480-3333). THE CITY WILL OPERATE ALL VALVES.
   f. DISINFECTING OF WATER MAINS MUST FOLLOW ANSI/AWWA 651-99 AND MUST BE WITNESSED BY CITY UTILITIES. 48 HR. ADVANCE NOTICE IS REQUIRED (480-3333). DISINFECTION PLAN TO BE SUBMITTED TO COV UTILITIES DEPT. FOR REVIEW AC APPROVAL PRIOR TO SCHEDULING DISINFECTION.
   g. FORCE MAINS SHALL BE A MINIMUM OF 4" IN DIAMETER.

33. BACKFLOW ASSEMBLIES
   a. BACKFLOW ASSEMBLIES SHALL BE TESTED UPON INSTALLATION BY A CERTIFIED PLUMBER AND RESULTS SUBMITTED TO THE UTILITIES DEPARTMENT WITHIN 72 HOURS.
   b. COORDINATE WITH TECHNICAL DIVISION FOR A LIST OF INDEPENDENT INSPECTION SERVICE PROVIDERS.

EROSION AND SEDIMENTATION CONTROL NOTES

1. ALL PRACTICABLE EFFORT SHALL BE TAKEN DURING CONSTRUCTION TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT MATERIALS TO INLETS, SURFACE DRAINS, WETLANDS AND LAKE AREAS, PER FDEP/SWFWMD "BEST MANAGEMENT PRACTICES". THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RESTORATION EFFORTS THAT MAY BE REQUIRED.

2. THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING FROM THE PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.

3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM THE SITE IF NOT REUSABLE ON-SITE AND ASSUMING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION.

4. ADDITIONAL PROTECTION - ON-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNFORESEEN CONDITIONS OR ACCIDENTS.

5. THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING DRAINAGE STRUCTURES, PIPES, ETC., ARE CLEANED OUT AND WORKING PROPERLY AT THE TIME OF PROJECT COMPLETION.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING DIRT AND SEDIMENT FROM ALL CONSTRUCTION EQUIPMENT AND VEHICLES PRIOR TO ENTERING PUBLIC ROAD WAYS.

7. THE CONTRACTOR SHALL CLEAN ALL ROADWAYS WITHIN OR ADJACENT TO THE PROJECT LIMITS ON A DAILY BASIS OR AS NEEDED TO PREVENT TRANSFER OF SEDIMENTATION.

8. HAY BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.

9. HAY BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.

10. THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 8 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.

11. EACH HAY BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALES.

12. LOOSE STRAW SHOULD BE WEDGED BETWEEN THE BALES TO PREVENT WATER FROM ENTERING BETWEEN THE BALES.

13. STRAW BALE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAIN EVENTS.

14. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.

15. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.

16. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE STRAW BALE BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

17. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

18. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC OR BALES SHALL BE REPLACED PROMPTLY.

19. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN THE DEPOSITS REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.

20. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH EXISTING GRADE, PREPARED AND SEEDED.

21. EXISTING STORM STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN EVENT, REPAIRS MADE TO THE FILTER BARRIERS, AND SILT / SEDIMENT REMOVED FROM PIPES AND STRUCTURES AS NEEDED TO PROVIDE POSITIVE FLOW.

22. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

23. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS AND SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT SPECIFICATIONS AND CRITERIA.

24. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO: "THE FLORIDA DEVELOPMENT MANUAL - A GUIDE TO SOUND LAND AND WATER MANAGEMENT", FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P), CHAPTER 6.

25. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS A POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.

26. ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED, MULCHED AND MAINTAINED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED.

27. SOD SHALL BE PLACED IN AREAS WHICH MAY REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITY STANDARDS ARE MAINTAINED.

28. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER THAT LIMITS THE DISCHARGE TO 29 NTU ABOVE THE BACKGROUND CONCENTRATION OF THE OUTFALL.

29. DEWATERING PUMPS SHALL NOT EXCEED THE CAPACITY OF THAT WHICH REQUIRES A CONSUMPTIVE USE PERMIT FROM THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT.

30. ALL DISTURBED AREAS TO BE STABILIZED THROUGH COMPACTION, SILT SCREENS, HAY BALES AND GRASSING. ALL FILL SLOPES 3:1 OR STEEPER SHALL RECEIVE STAKED SOLID SOD.

31. ALL DEWATERING, EROSION AND SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.

32. THESE NOTES INDICATE THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.

33. THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL FDEP OR WATER MANAGEMENT DISTRICT INQUIRIES, RELATIVE TO THE COMPLIANCE FOR EROSION AND SEDIMENTATION CONTROL.

34. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.

35. THE CONTRACTOR SHALL EXECUTE THE STORM WATER POLLUTION PREVENTION PLAN PROVIDED ON SHEET G1.02 PRIOR TO INITIATING CONSTRUCTION.

REV#	DATE	DESCRIPTION	BY

NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND DATED:

WADETRIM
8010 Woodland Center Boulevard
Suite 1200, Tampa, FL 33614
813.882.4373/888.499.9624 FAX: 813.888.7215
Certificate of Authorization No.: 3952
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Building relationships on a foundation of excellence

CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

GENERAL NOTES

Venice, FL
City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

JOB NO.
VEN2016.01M

SHEET
G1.01

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PROJECT MANAGER: Holly Kremers P.E. FIELD BOOK INFORMATION:-
C:\PW_WORK\KAHLGRIM\D0437226\GLS-PLTS-VENICE PHS2-G1.01.DWG - G1.01 - PLOTTED 4/14/2014 3:19 PM BY AHLGRIM, KURT

SITE DESCRIPTION

PROJECT NAME: CITY OF VENICE – WATER MAIN REPLACEMENT PROGRAM PHASE–2

SITE LOCATION:
HIGEL DRIVE (EAST/WEST) BETWEEN OSPREY STREET AND THE ESPLANDE NORTH. ORMOND STREET (EAST/WEST) BETWEEN APALACHICOLA ROAD AND THE ESPLANDE NORTH. APALACHICOLA ROAD (NORTH/SOUTH) BETWEEN MADRID AVE. AND MANTANZAS STREET. CADIZ ROAD (NORTH/SOUTHWEST) BETWEEN MADRID AVENUE AND MANTANZAS STREET MADRID AVENUE (SOUTHWEST/SOUTHEAST) BETWEEN NARVAEZI STREET AND BARCELONA AVENUE BARCELNPA AVENUE (EAST/WEST) BETWEEN PARK BLVD. AND AVENUE DES PARQUES NORTH. THE ESPLANDE SOUTH (NORTH/SOUTHEAST) BETWEEN GRANADA AVENUE AND CASTILE STREET.

OWNER OF PROJECT: CITY OF VENICE UTILITY DEPARTMENT

OWNER'S ADDRESS: 200 NORTH WARFIELD AVENUE
VENICE, FLORIDA 34285

PROJECT COORDINATES: LATITUDE: 27° 5' 59.8596"
LONGITUDE: –82° 27' 25.8402"

DESCRIPTION OF NATURE OF CONSTRUCTION ACTIVITY:

INSTALLATION OF APPROXIMATELY 5,110 LINEAL FEET OF WATER DISTRIBUTION MAIN BY OPEN CUT AND HORIZONTAL DIRECTIONAL DRILL METHODS.

SOIL DISTURBING ACTIVITIES INCLUDE:

EROSION CONTROL MEASURES, PIPE TRENCH EXCAVATION AND BACKFILL, PAVEMENT REPLACEMENT AND GRADING, AND PREPARATION FOR FINAL, SODDING, SEED & MULCHING AND HYDRO–SEEDING.

RUNOFF COEFFICIENT: N/A

SITE AREA: N/A

SEQUENCE OF MAJOR ACTIVITIES:

1. INSTALL SILT FENCE AND HAY BALES AS REQUIRED
2. EXCAVATE PIPE TRENCHES OR HDD RECEIVING/EXIT PITS OR SERVICE LATERAL PITS
3. STOCK PILE TOP SOIL IF REQUIRED
4. STABILIZE DENUDED AREAS AND STOCKPILES AS SOON AS PRACTICABLE.
5. INSTALL UTILITIES
6. COMPLETE GRADING AND INSTALL PERMANENT SODDING/SEED AC MULCHING/HYDRO–SEEDING
7. COMPLETE FINAL PAVING AND GRADING
8. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY CONTROLS.

NAME OF RECEIVING WATERS: GULF OF MEXICO

CONTROLS

EROSION AND SEDIMENT CONTROLS

STABILIZATION PRACTICES

WIND EROSION STABILIZATION: THE CONTRACTOR SHALL DENUDE ONLY AREAS WHERE IT IS EXPECTED TO BE EXCAVATED OR ALTERED WITHIN A TWO (2) WEEK TIME–FRAME. FINAL GRADES SHALL BE PERFORMED AND TEMPORARY OR PERMANENT SOIL STABILIZATION SHALL BE APPLIED. AREAS WHERE CONSTRUCTION OPERATIONS WILL BE CONTINUOUS, FUGITIVE DUST SHALL BE MANAGED BY APPLYING A WATER SPRAY TO SATURATE THE SURFACE SOILS ON A DAILY BASIS, OR AS NEEDED TO MAINTAIN MINIMAL DUST TRANSPORT. FUGITIVE DUST SHALL BE MONITORED CONTINUOUSLY AND ADDITIONAL MEASURES MAY NEED TO BE TAKEN TO CONTROL OFF–SITE TRANSPORT OF UNACCEPTABLE LEVELS OF DUST.

TEMPORARY STABILIZATION: TOP SOIL STOCK PILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 10 DAYS WILL BE STABILIZED WITH TEMPORARY GRASS AND MULCH NO LATER THAN 5 DAYS FROM THE LAST CONSTRUCTION ACTIVITY. GRASS SEED SHALL BE A MIXTURE OF 20 PARTS OF BERMUDA SEED AND 80 PARTS OF PENSACOLA BAHIA. THE SEPARATE TYPES OF SEED USED SHALL BE THOROUGHLY DRY MIXED IMMEDIATELY BEFORE SOWING. SEED WHICH HAS BECOME WET SHALL NOT BE USED. THE MULCH MATERIAL USED SHALL NORMALLY BE DRY MULCH. DRY MULCH SHALL BE STRAW OR HAY, CONSISTING OF OAT, RYE OR WHEAT STRAW, OR OF PANGOLA, PEANUT, COASTAL BERMUDA OR BAHIA GRASS HAY. ONLY UNDETERIORATED MULCH WHICH CAN BE READILY CUT INTO THE SOIL SHALL BE USED. AREAS OF THE SITE WHICH ARE TO BE PAVED WILL BE TEMPORARILY STABILIZED BY APPLYING STABILIZATION AND BASE.

PREMANENT STABILIZATION: DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED AND RESTORED TO PRECONSTRUCTION CONDITIONS NO LATER THAN 5 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY.

STRUCTURAL PRACTICES

STAKED SILT FENCES: THE STAKED SILT FENCES WILL BE CONSTRUCTED ALONG THE PERIMETER AS PREVIOUSLY EXPLAINED. THESE DEVICES WILL FILTER RUNOFF AND/OR DIVERT RUNOFF TO THE SEDIMENT BASINS (IF NEEDED).

SEDIMENT BASINS: IF NEEDED, SEDIMENT BASINS WILL BE CONSTRUCTED TO A MINIMUM OF 2' BELOW EXISTING GROUND AT THE CONTRACTOR'S DISCRETION TO ALLOW SILTS TO BE COLLECTED AND REMOVED. EACH BASIN SHALL HAVE SIDE SLOPES NO STEEPER THAN 4:1 AND BE STABILIZED PRIOR TO USE.

STORM WATER MANAGEMENT

STORM WATER DRAINAGE WILL BE PROVIDED BY SWALE, TEMPORARY AND SEDIMENT BASINS, AS NEEDED. SWALES TO BE SODDED AND INCLUDE CHECK DAMS, RIP RAP, HAY BALES OR OTHER CONTROLS TO CONTROL RUNOFF VELOCITY AND TRANSPORT OF SEDIMENT. WHEN CONSTRUCTION IS COMPLETE THE IMPROVED PORTION OF THE SITE WILL DRAIN AS IT DID PRIOR TO THE UTILITY INSTALLATION.

OTHER CONTROLS

WASTE DISPOSAL

WASTE MATERIALS: ALL WASTE MATERIAL WILL BE COLLECTED AND STORED IN DUMPSTERS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTERS. THE DUMPSTERS WILL BE EMPTIED A MINIMUM OF ONCE A WEEK OR MORE OFTEN IF NECESSARY, AND THE TRASH WILL BE HAULED TO A REGISTERED LANDFILL FOR DISPOSAL. NO EXCESS CONSTRUCTION MATERIALS WILL BE BURIED ON–SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED IN THE ON–SITE OFFICE TRAILER AND THE CONSTRUCTION MANGER RESPONSIBLE FOR THE DAY–TO–DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE: ALL HAZARDOUS WASTE MATERIALS, IF ENCOUNTERED, WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE: ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS A MINIMUM OF THREE TIMES PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR, AS REQUIRED BY LOCAL REGULATION.

OFFSITE VEHICLE TRACKING

THE PAVED STREETS WILL BE CLEANED AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM/TO THE SITE. DUMP TRUCKS HAULING MATERIAL FROM OR TO THE SITE WILL BE COVERED WITH A TARPAULIN AT ALL TIMES.

TIMING OF CONTROL MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, STAKED SILT BARRIERS, STABILIZED CONSTRUCTION ENTRANCES AND SEDIMENT BASINS WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 21 DAYS WILL BE STABILIZED WITH A TEMPORARY GRASS AND MULCH WITHIN 5 DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTED ACTIVITY CEASES PERMANENTLY IN THAT AREA, THAT AREA WILL BE RESTORED TO PRECONSTRUCTION CONDITIONS AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE TRAPS AND THE STAKED SILT BARRIERS WILL BE REMOVED.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, STAKED SILT BARRIERS, STABILIZED CONSTRUCTION ENTRANCES AND SEDIMENT BASINS WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 21 DAYS WILL BE STABILIZED WITH A TEMPORARY GRASS AND MULCH WITHIN 5 DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTED ACTIVITY CEASES PERMANENTLY IN THAT AREA, THAT AREA WILL BE RESTORED TO PRECONSTRUCTION CONDITIONS AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE TRAPS AND THE STAKED SILT BARRIERS WILL BE REMOVED.

MAINTENANCE INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THESE ARE THE INSPECTION AND MAINTENANCE PRACTICES THAT SHALL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROL.

ALL CONTROL MEASURES IN DISTURBED AREAS WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND WITHIN 24 HOURS OF THE END OF ANY STORM EVENT OF 0.25 INCHES OR GREATER BY A CONTRACTOR'S REPRESENTATIVE. (WHERE SITES HAVE BEEN FINALLY STABILIZED SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH.) ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE–THIRD THE HEIGHT OF THE FENCE. SILT FENCE WILL BE INSPECTED REGULARLY FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND. THE SEDIMENT BASINS WILL BE INSPECTED FOR DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB. TEMPORARY AND PERMANENT GRASSING, MULCHING AND SODDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH. A MAINTENANCE INSPECTION REPORT SHALL BE MADE AFTER EACH INSPECTION BY THE CONTRACTOR AND SHALL BE KEPT IN AN ACTIVE LOG READILY AVAILABLE AT THE JOB SITE CONSTRUCTION TRAILER. THE SITE SUPERINTENDENT WILL SELECT INDIVIDUALS WHO WILL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES. FILLING OUT THE INSPECTION AND MAINTENANCE REPORT WILL BE BY THE CONTRACTOR. PERSONNEL SELECTED FOR MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ON–SITE IN GOOD WORKING ORDER.

NON–STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON–STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

WATER FROM DEWATERING, WATER LINE FLUSHING. WATER USED TO SPRAY OFF LOOSE SOILS FROM VEHICLES. DUST CONTROL. PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED). ALL NON–STORM WATER DISCHARGES WILL BE DIRECTED TO A SEDIMENT BASIN PRIOR TO DISCHARGE.

GROUNDWATER DEWATERING ACTIVITIES ARE NOT COVERED BY THIS PERMIT. THE CONTRACTOR SHALL APPLY FOR COVERAGE UNDER THE GENERIC PERMIT FOR THE DISCHARGE OF PRODUCED GROUNDWATER FROM ANY NON–CCNTAMINATED SITE ACTIVITY PURSUANT TO 62–621.300 (2), F.A.C.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED, BUT NOT LIMITED TO, BE PRESENT ON SITE DURING CONSTRUCTION:

CONCRETE	FERTILIZERS
DETERGENTS	PETROLEUM BASED PRODUCTS AND FUELS
PAINTS (ENAMEL AND LATEX)	CLEANING SOLVENTS
METAL TRENCH BOXES WOOD	WOOD
TAR (PAVEMENT)	STONE
SAND	

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING:

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES SHALL BE FOLLOWED ON–SITE DURING THE CONSTRUCTION PROJECT.

AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB. ALL MATERIALS STORED ON–SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER CONTAINED ENCLOSURE. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL MANUFACTURER'S LABELED CONTAINERS. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER. WHENEVER POSSIBLE, ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON–SITE.

HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

PRODUCTS SHALL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE–SEALABLE. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS OF PROPER DISPOSAL SHALL BE FOLLOWED. THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON–SITE:

PETROLEUM PRODUCTS:

ALL ON–SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON–SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS:

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

MATERIAL MANAGEMENT PRACTICES (CONTINUED)

PAINTS:

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS:

CONTRACTOR SHALL DESIGNATE AN AREA FOR DISCHARGE OF SURPLUS CONCRETE OR DRUM WASH WATER AND SHALL INSTALL A CONTAINMENT BERM AROUND THIS AREA TO PREVENT RUNOFF TO THE REMAINDER OF THE SITE. HARD DEBRIS SHALL BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH LOCAL RULES AND REGULATIONS UPON COMPLETION OF THE PROJECT.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON–SITE. EQUIPMENT AND MATERIALS WILL INCLUDE, BUT NOT BE LIMITED TO, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREAS WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY–TO–DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE WILL DESIGNATE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ON–SITE.

NOTICE OF TERMINATION

A NOTICE OF TERMINATION WILL BE SUBMITTED TO EPA AFTER THE CONSTRUCTION HAS BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION.

POLLUTION PREVENTION PLAN STABILIZATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS HAVE BEEN READ BY ME OR MY DESIGNATED REPRESENTATIVE AND UNDERSTAND THAT THIS SYSTEM HAS BEEN PREPARED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE. ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION. INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OWNER REPRESENTATIVE

SIGNED:____________________

NAME AND TITLE:____________________

COMPANY: CITY OF VENICE ENGINEERING DEPARTMENT

ADDRESS: 401 WEST VENICE AVENUE
VENICE, FL 34285

DATE:____________________

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERIC STORM WATER PERMIT ISSUED PURSUANT TO SECTION 403.0885, F.S., THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

SIGNATURE	FOR	RESPONSIBLE FOR
________ NAME: ________ TITLE: ________ DATE: ________	COMPANY: ________ ADDRESS: ________ ________ PHONE: ________	GENERAL CONTRACTOR TBD
________ NAME: ________ TITLE: ________ DATE: ________	COMPANY: ________ ADDRESS: ________ ________ PHONE: ________	TEMPORARY AND PERMANENT STABILIZATION
________ NAME: ________ TITLE: ________ DATE: ________	COMPANY: ________ ADDRESS: ________ ________ PHONE: ________	STABILIZED CONSTRUCTION ENTRANCE, EARTH DIKES, SEDIMENT BASIN

REV#	DATE	DESCRIPTION	BY

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

STORMWATER POLLUTION AND PREVENTION PLAN

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

JOB NO. VEN2016.01M

SHEET G1.02

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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PROJECT MANAGER: Holly Kremers P.E.
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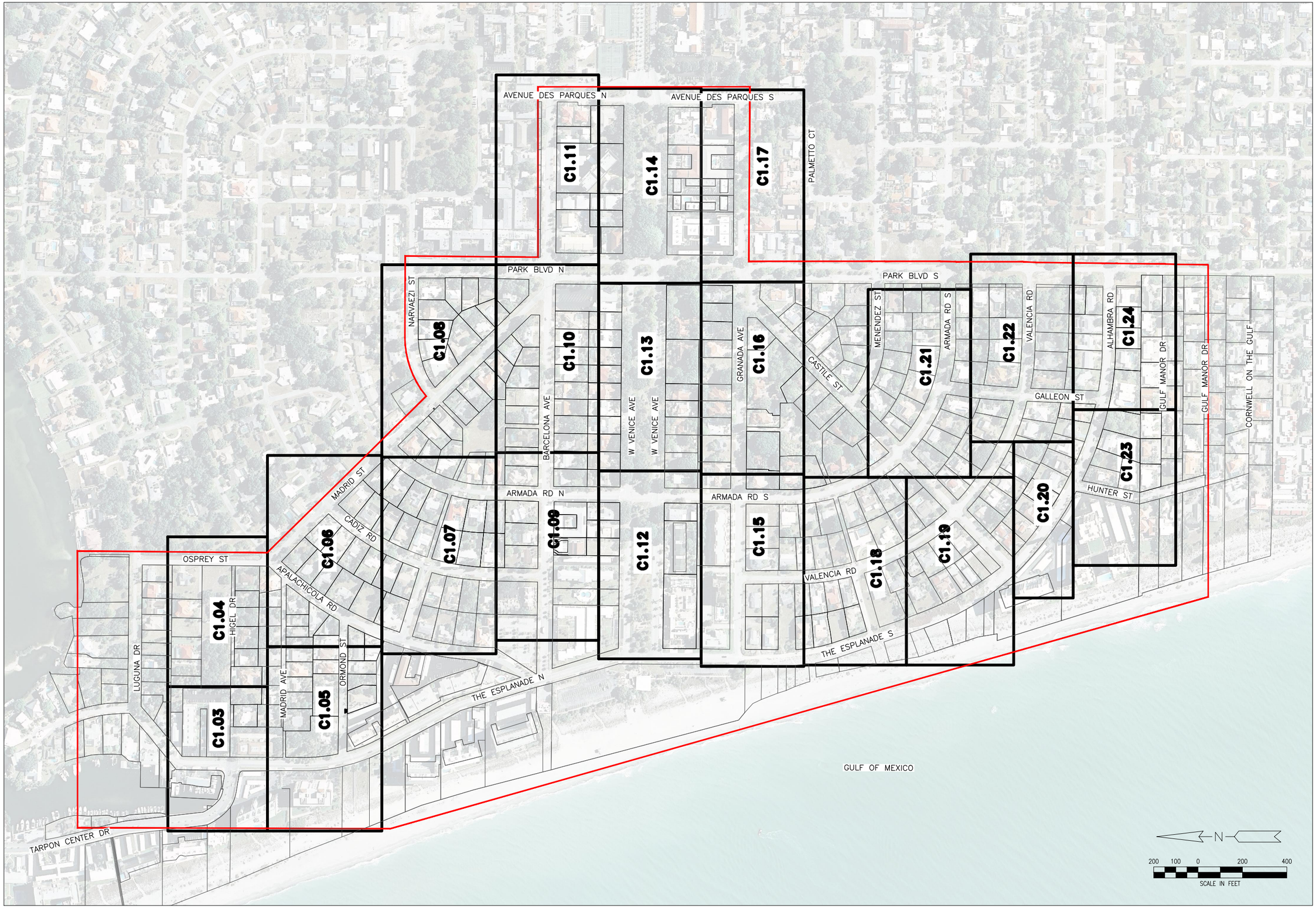

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CITY OF VENICE, FLORIDA
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WATER MAIN REPLACEMENT PROGRAM

KEY PLAN

Venice, FL City on the Gulf

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90%	1/24/14	HK
BID	4/14/14	HK

JOB NO. VEN2016.01M

SHEET C1.00

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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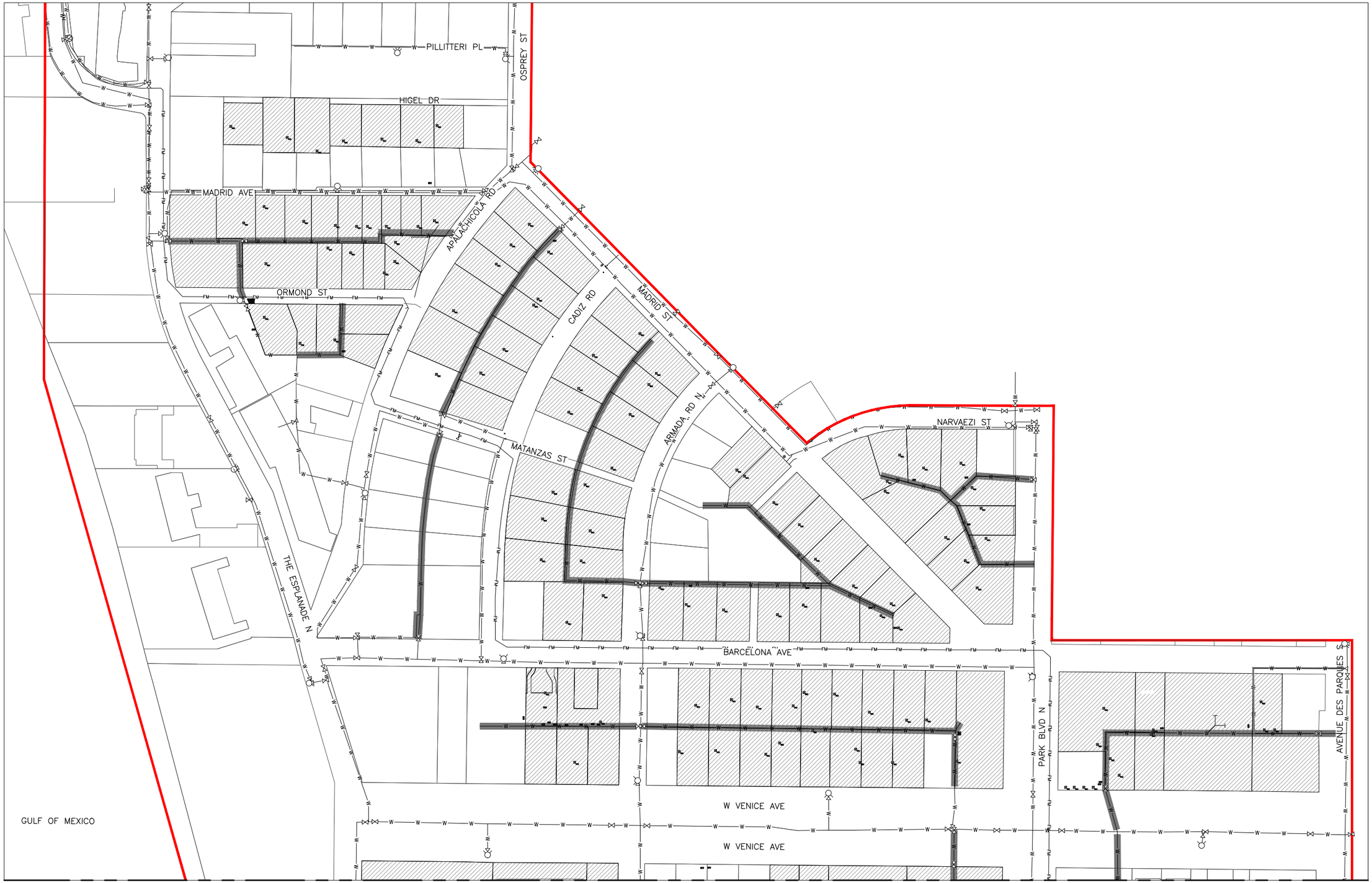
FIELD BOOK INFORMATION:–



MATCHLINE SEE SHEET C1.02

NOTE:
ALL WATER MAINS SHOWN TO BE ABANDONED SHALL BE ABANDONED UPON CITY APPROVAL AFTER CLEARANCE OF NEW WATER MAINS AND CONNECTION OF NEW WATER MAIN SERVICES IS COMPLETED.

NOTE: INDICATES WATER MAIN TO BE ABANDONED

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

NORTH – OVERALL EXISTING WATER MAIN ABANDONMENT SITE PLAN

Venice, FL City on the Gulf

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BID	4/14/14	HK

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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SHEET C1.01

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FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.01

NOTE:
ALL WATER MAINS SHOWN TO BE ABANDONED SHALL BE ABANDONED UPON CITY APPROVAL AFTER CLEARANCE OF NEW WATER MAINS AND CONNECTION OF NEW WATER MAIN SERVICES IS COMPLETED.

120 60 0 120 240
SCALE IN FEET

NOTE: INDICATES WATER MAIN TO BE ABANDONED

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

SOUTH – OVERALL EXISTING WATER MAIN ABANDONMENT SITE PLAN

Venice, FL City on the Gulf

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VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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SHEET C1.02

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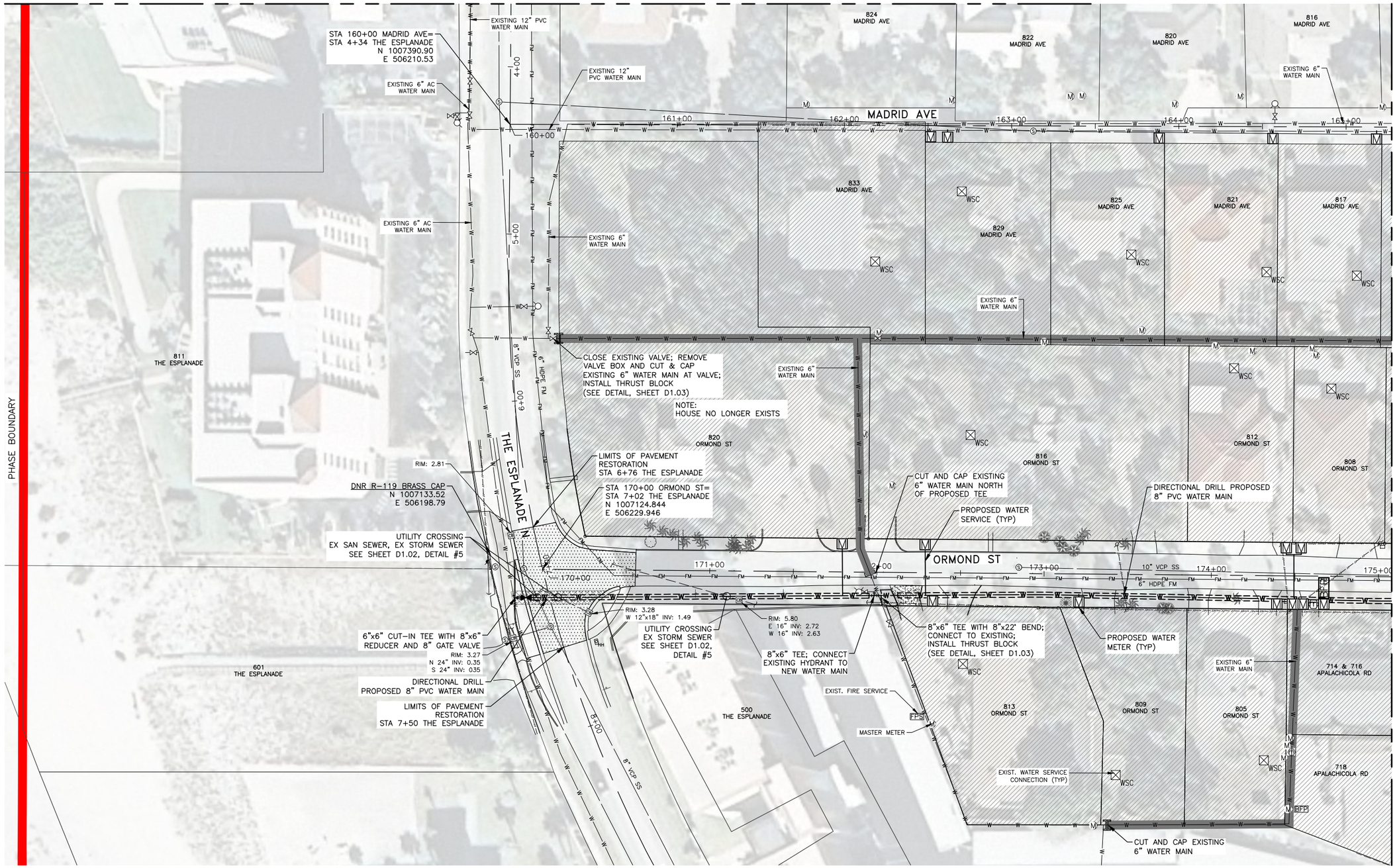
FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.03



WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

ORMOND STREET

Venice, FL City on the Gulf

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SHEET C1.05

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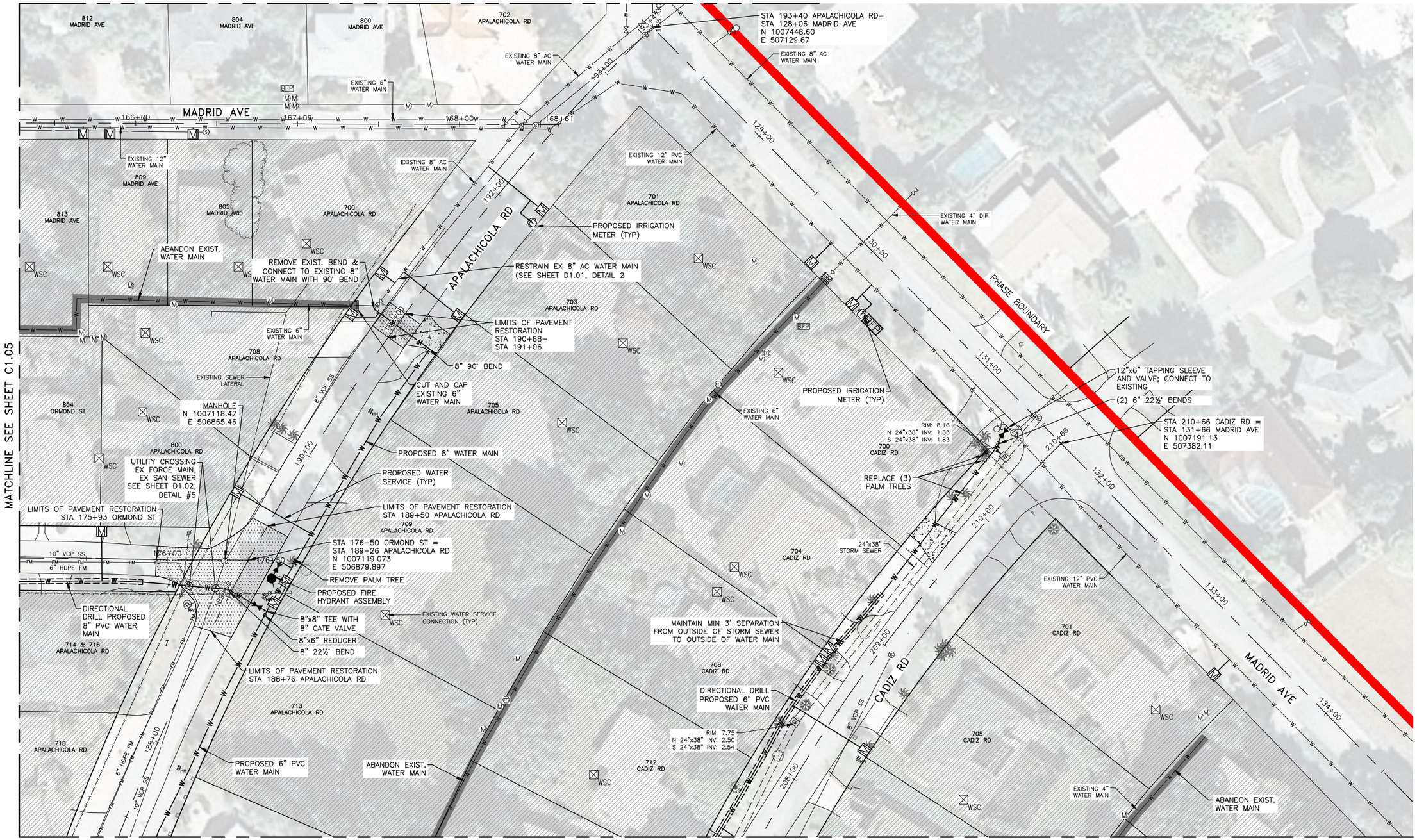
FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.04



MATCHLINE SEE SHEET C1.05

MATCHLINE SEE SHEET C1.07

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60

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CITY OF VENICE, FLORIDA
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WATER MAIN REPLACEMENT PROGRAM

ORMOND STREET, APALACHICOLA ROAD & CADIZ STREET

Venice, FL City on the Gulf

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SHEET C1.06

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FIELD BOOK INFORMATION:

MATCHLINE SEE SHEET C1.06

MATCHLINE SEE SHEET C1.08

MATCHLINE SEE SHEET C1.09

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

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CITY OF VENICE, FLORIDA
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WATER MAIN REPLACEMENT PROGRAM

MANTANZAS STREET & CADIZ ROAD

Venice, FL City on the Gulf

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SHEET C1.07

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.07

54+00
136+00
137+00
138+00
139+00
140+00
141+00
142+00
320+00
321+00
322+00
323+00
325+00
326+00
87+00
88+00
89+00
90+00
91+00

EXISTING 8" AC WATER MAIN
EXISTING 12" WATER MAIN
701 ARMADA RD
705 ARMADA RD
711 ARMADA RD
629 MADRID AVE
625 MADRID AVE
621 MADRID AVE
617 MADRID AVE
613 MADRID AVE
612 MADRID AVE
608 MADRID AVE
604 MADRID AVE
MADRID AVE
NARVAEZI ST
PARK BLVD N
PHASE BOUNDARY
8" VCP SS

12"x6" TAPPING SLEEVE AND VALVE, 6" 90° BEND; CONNECT TO EXISTING
RIM: 7.17
W 12" INV: 5.21

MANHOLE
N 1006717.97
E 507842.52

REPLACE (1) PALM TREE; REPLACE (1) FLAG POLE
UTILITY CROSSING, EX STORM SEWER SEE SHEET D1.02, DETAIL #5

RIM: 7.13
E 24" INV: 2.42
W 24" INV: 2.42

DIRECTIONAL DRILL PROPOSED 6" PVC WATER MAIN

STA 138+46 MADRID AVE=
STA 320+00 NARVAEZI ST
N 1006705.83
E 507858.32

PROPOSED WATER SERVICE (TYP)

ABANDONED FM
ABANDONED FORCE MAIN
RIM: 6.17
W 12" INV: 4.17
RIM: 6.32
E 12" INV: 5.03

EXISTING 2" WATER MAIN

613 NARVAEZI ST
609 NARVAEZI ST
605 NARVAEZI ST
617 NARVAEZI ST
EXIST. WATER SERVICE CONNECTION (TYP)
EXIST. BACK FLOW PREVENTER (TYP)
EXISTING 4" WATER MAIN

STA 326+02 NARVAEZI ST=
STA 87+27 PARK BLVD
N 1006815.26
E 508431.30

221 PARK BLVD
217 PARK BLVD
213 PARK BLVD
209 PARK BLVD
EXISTING 6" WATER MAIN
CLOSE EXISTING VALVE; REMOVE VALVE BOX, CUT AND CAP EXISTING 4" WATER MAIN AT VALVE
CUT AND CAP EXISTING 4" WATER MAIN

MATCHLINE SEE SHEET C1.10

WATER SERVICE NOTE:
CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

MADRID AVENUE
PLAN VIEW

Venice, FL City on the Gulf

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SHEET C1.08

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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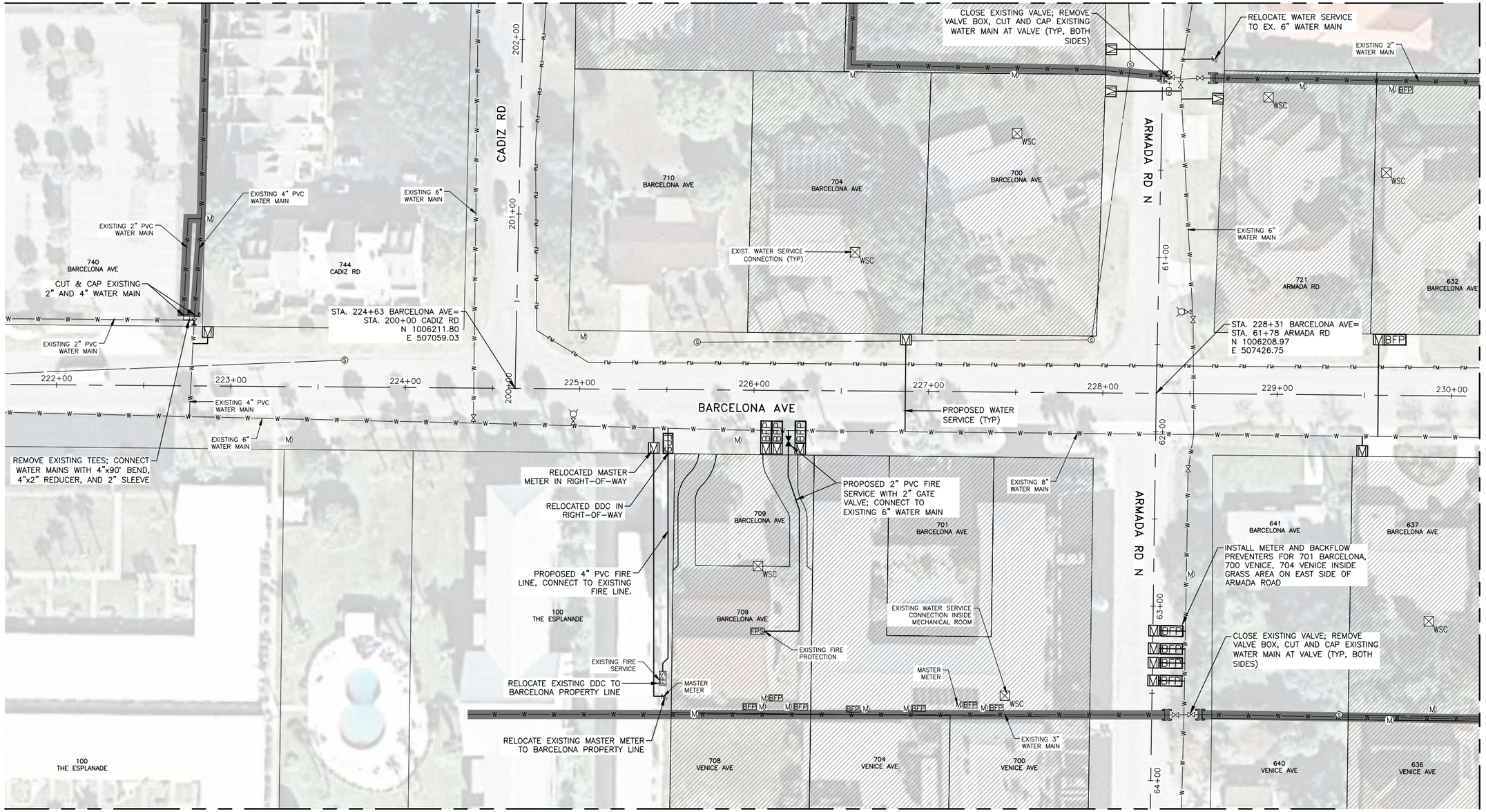
FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.07



MATCHLINE SEE SHEET C1.12

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

BARCELONA AVENUE

Venice, FL City on the Gulf

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JOB NO. VEN2016.01M

SHEET C1.09

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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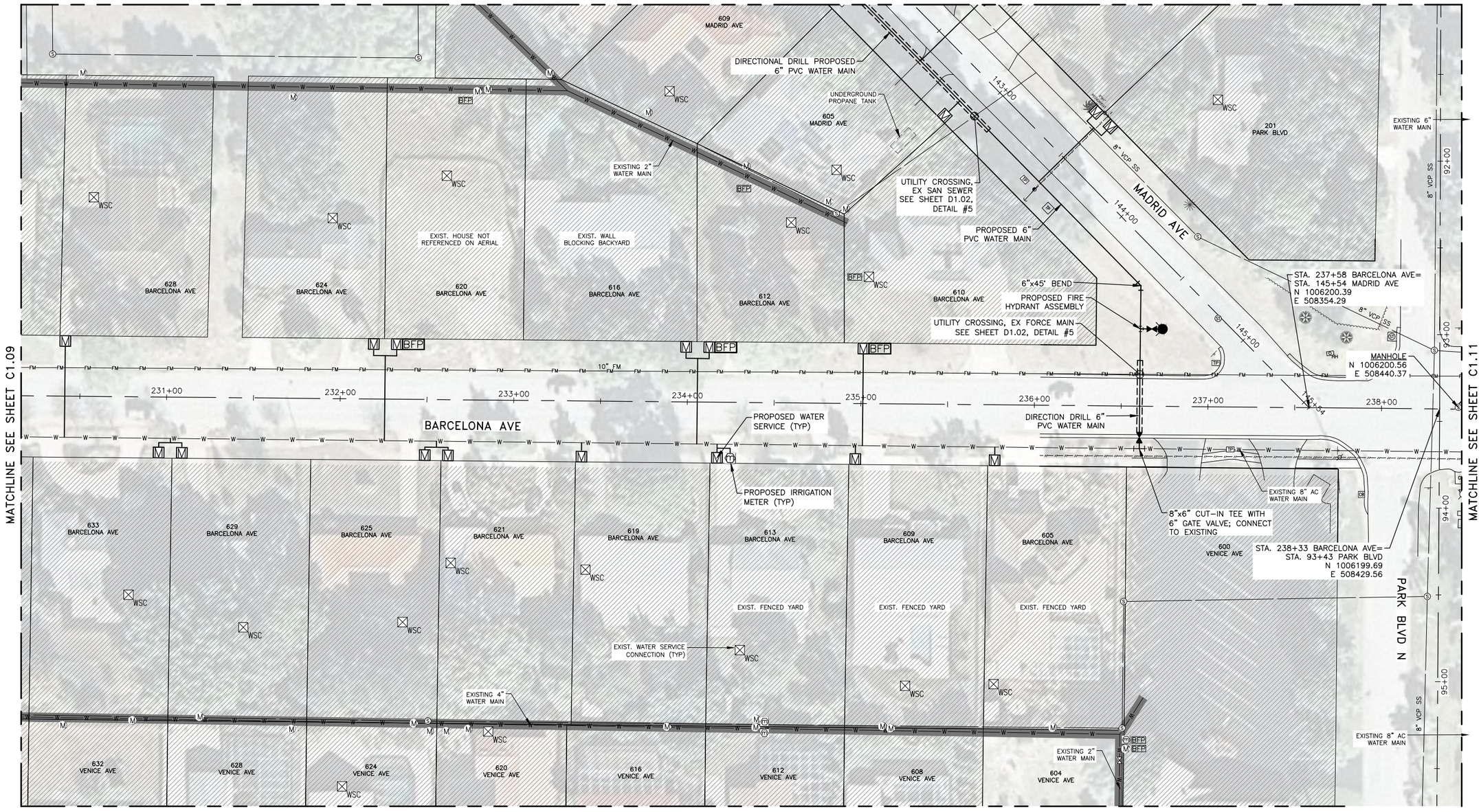
FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.08



MATCHLINE SEE SHEET C1.13

WATER SERVICE NOTE:
CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60
SCALE IN FEET

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CITY OF VENICE, FLORIDA
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BARCELONA AVENUE & MADRID AVENUE

Venice, FL City on the Gulf

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90%	1/24/14	HK
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SHEET C1.10

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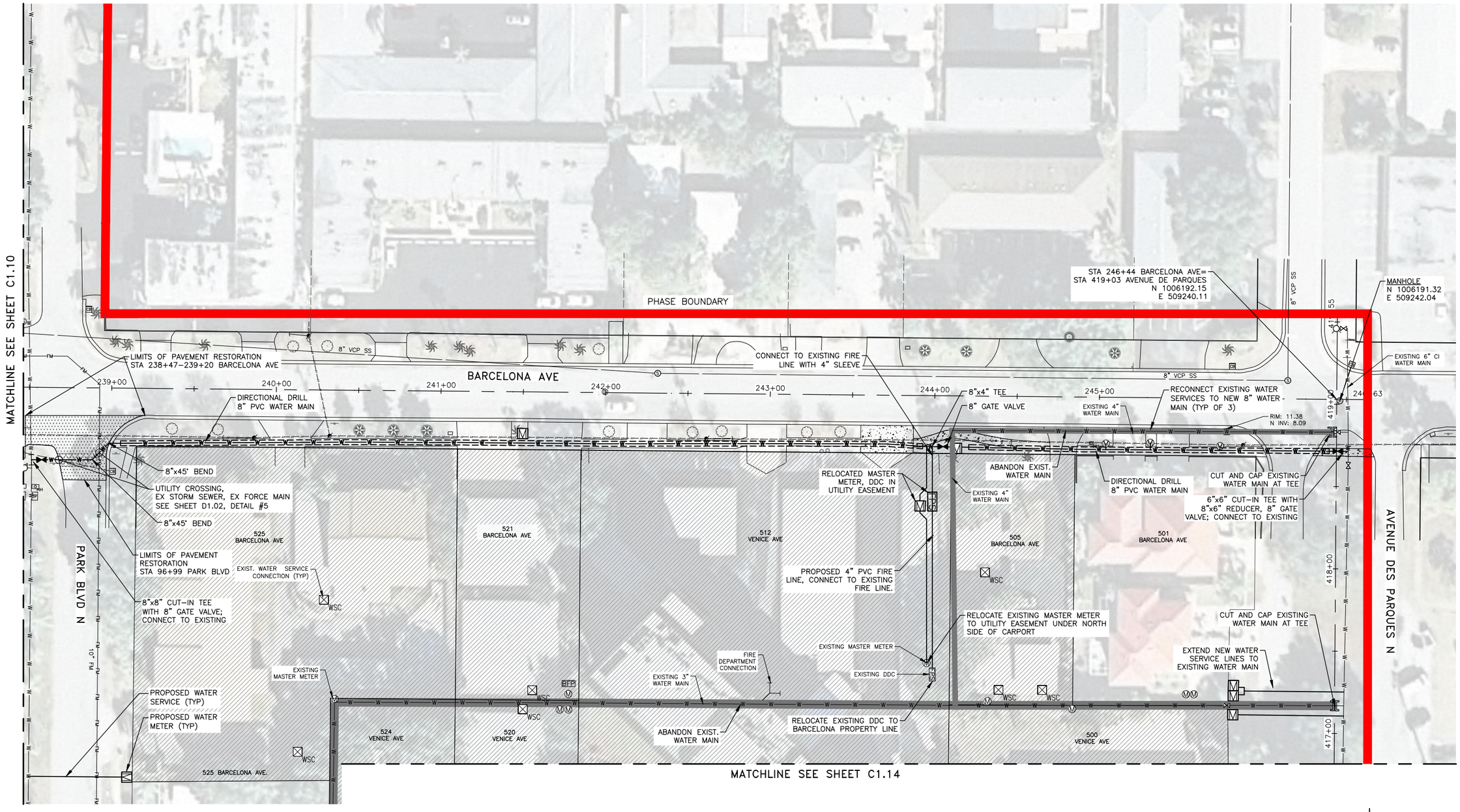
FIELD BOOK INFORMATION:–



WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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BARCELONA AVENUE

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SHEET C1.11

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FIELD BOOK INFORMATION:–
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MATCHLINE SEE SHEET C1.09

MATCHLINE SEE SHEET C1.13

MATCHLINE SEE SHEET C1.15

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60

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CITY OF VENICE, FLORIDA
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WATER MAIN REPLACEMENT PROGRAM

WEST VENICE AVENUE

Venice, FL City on the Gulf

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SHEET C1.12

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FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.10

MATCHLINE SEE SHEET C1.16

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

WEST VENICE AVENUE

Venice, FL City on the Gulf

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SHEET C1.13

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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PROJECT MANAGER:Holly Koerners P.E.
FIELD BOOK INFORMATION:–
C:\PW_WORK\KAHLGRIM\D0437226\CUP-PLTS-VENICE C1.11 TO C1.14.DWG – C1.13 – PLOTTED 4/14/2014 3:21 PM BY AHLGRIM, KURT

MATCHLINE SEE SHEET C1.11

MATCHLINE SEE SHEET C1.17

WATER SERVICE NOTE:
CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60
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Venice, FL City on the Gulf

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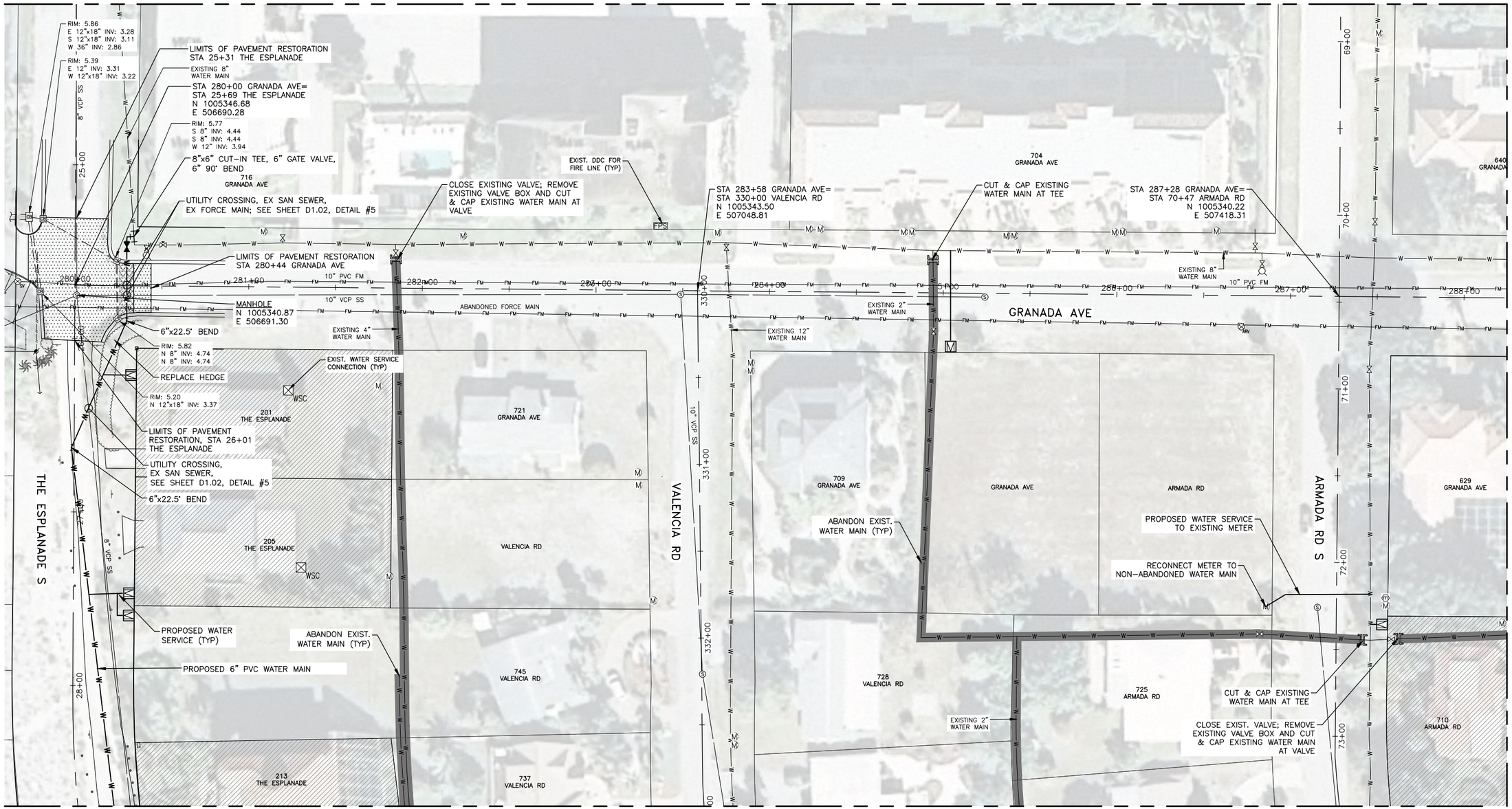
FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.12



MATCHLINE SEE SHEET C1.18

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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THE ESPLANADE SOUTH
& GRANADA AVENUE

Venice, FL City on the Gulf

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SHEET C1.15

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PROJECT MANAGER:Holly Kramers P.E.
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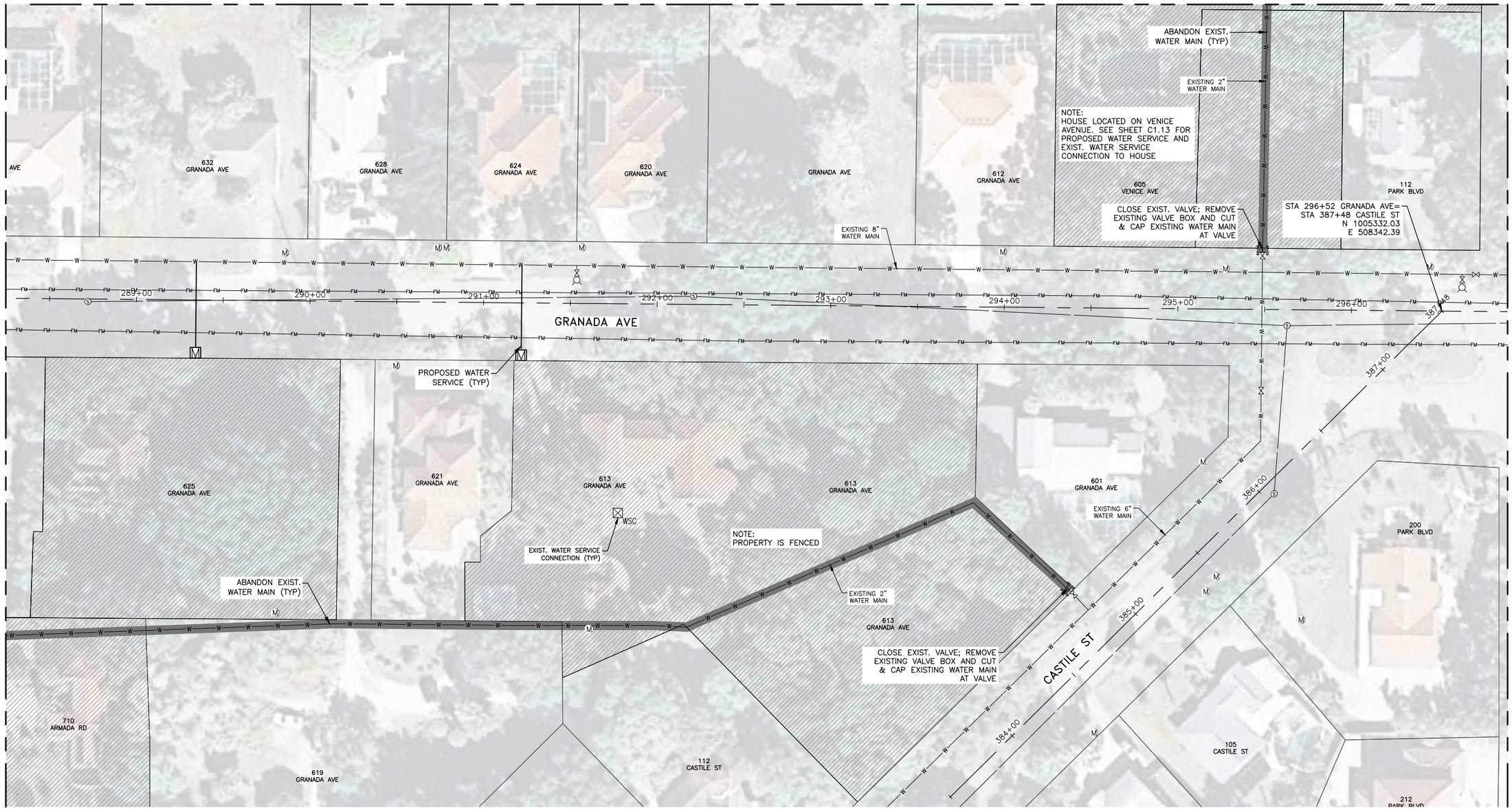
MATCHLINE SEE SHEET C1.13



MATCHLINE SEE SHEET C1.15

MATCHLINE SEE SHEET C1.17

WATER SERVICE NOTE:
CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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GRANADA AVENUE

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SHEET C1.16

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PROJECT MANAGER:Holly Kremers P.E.
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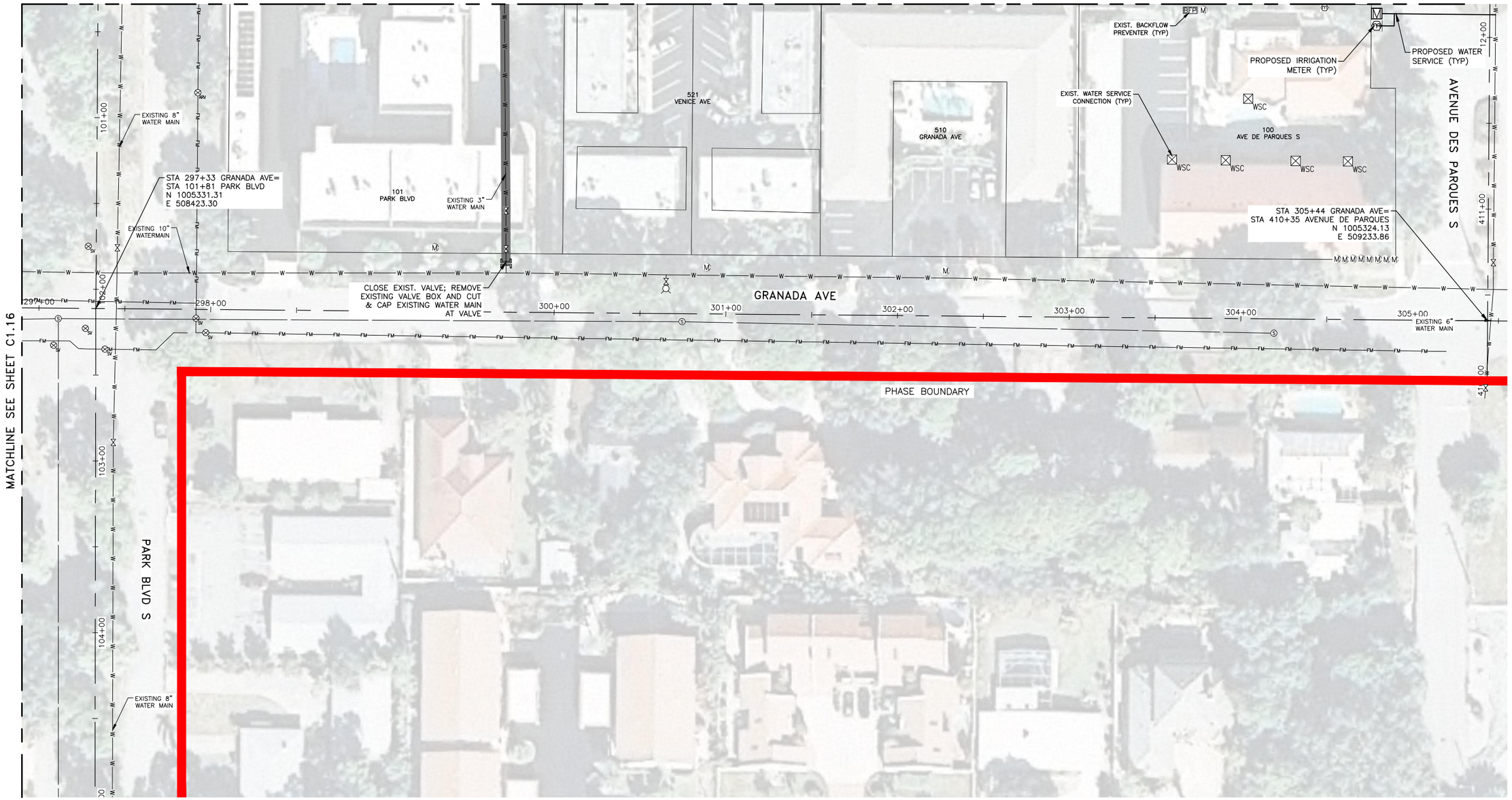
FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.14



MATCHLINE SEE SHEET C1.16

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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GRANADA AVENUE

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SHEET C1.17

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PROJECT MANAGER:Holly Kremers P.E.
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MATCHLINE SEE SHEET C1.15

MATCHLINE SEE SHEET C1.21

MATCHLINE SEE SHEET C1.19

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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WATER MAIN REPLACEMENT PROGRAM

THE ESPLANADE SOUTH & OCALA STREET

Venice, FL City on the Gulf

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SHEET C1.18

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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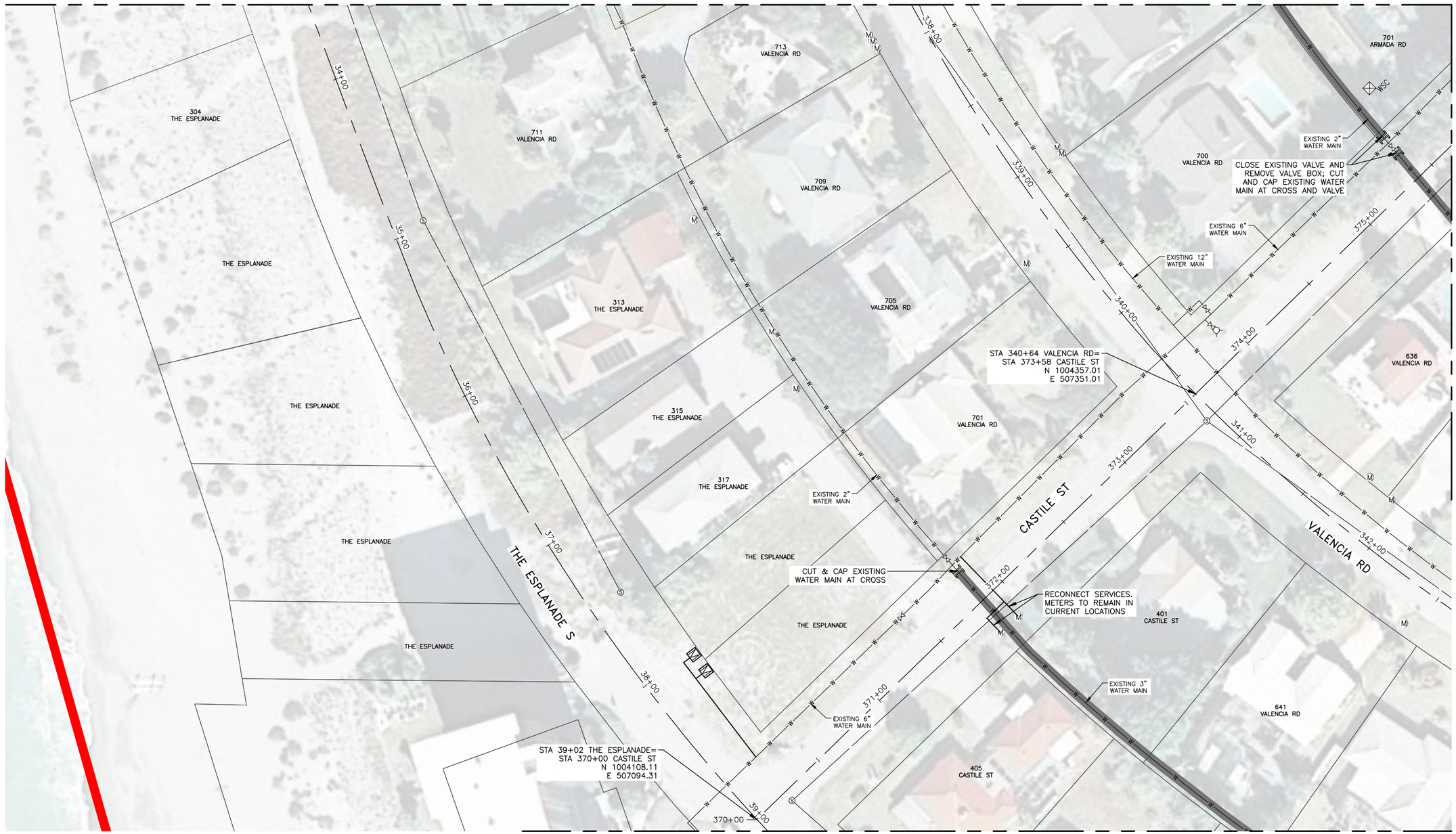

MATCHLINE SEE SHEET C1.20

MATCHLINE SEE SHEET C1.21

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

WATER MAIN REPLACEMENT PLAN VIEW

Venice, FL City on the Gulf

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SHEET C1.19

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PROJECT MANAGER:Holly Kremers P.E.
FIELD BOOK INFORMATION:–
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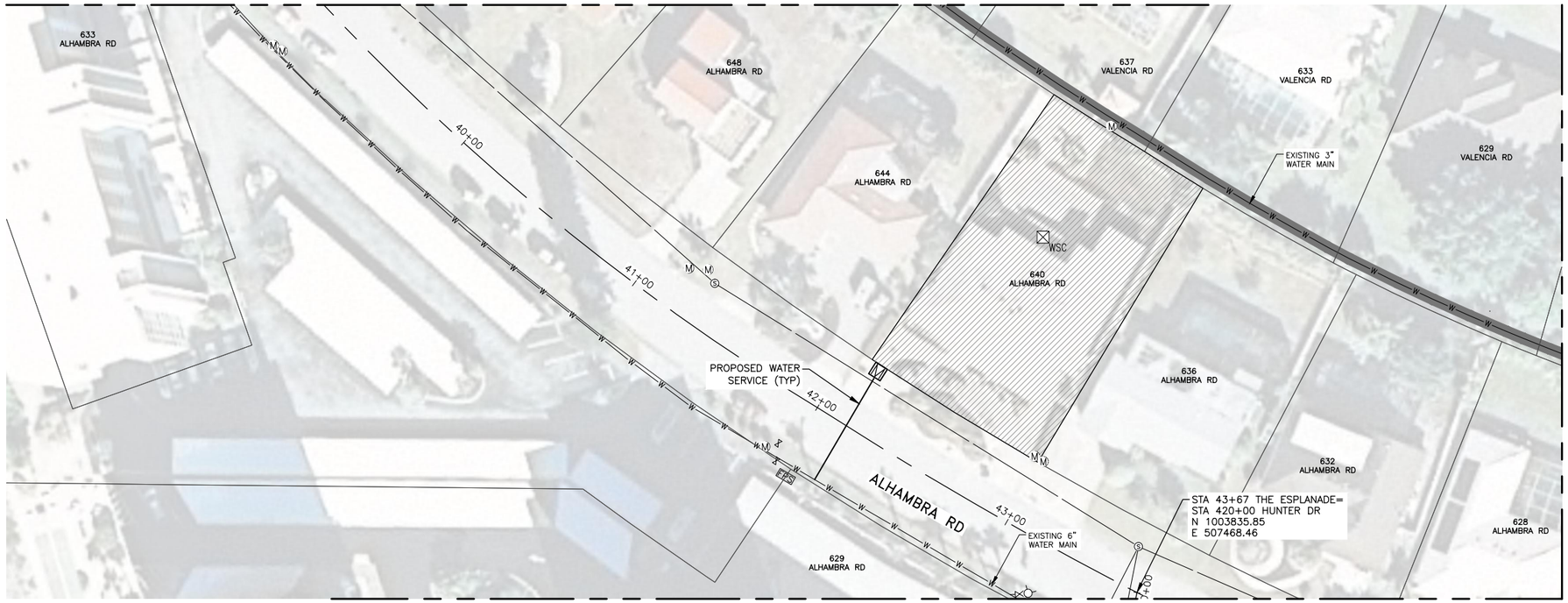
MATCHLINE SEE SHEET C1.19



MATCHLINE SEE SHEET C1.22

MATCHLINE SEE SHEET C1.23

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

ALHAMBRA ROAD

Venice, FL City on the Gulf

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SHEET C1.20

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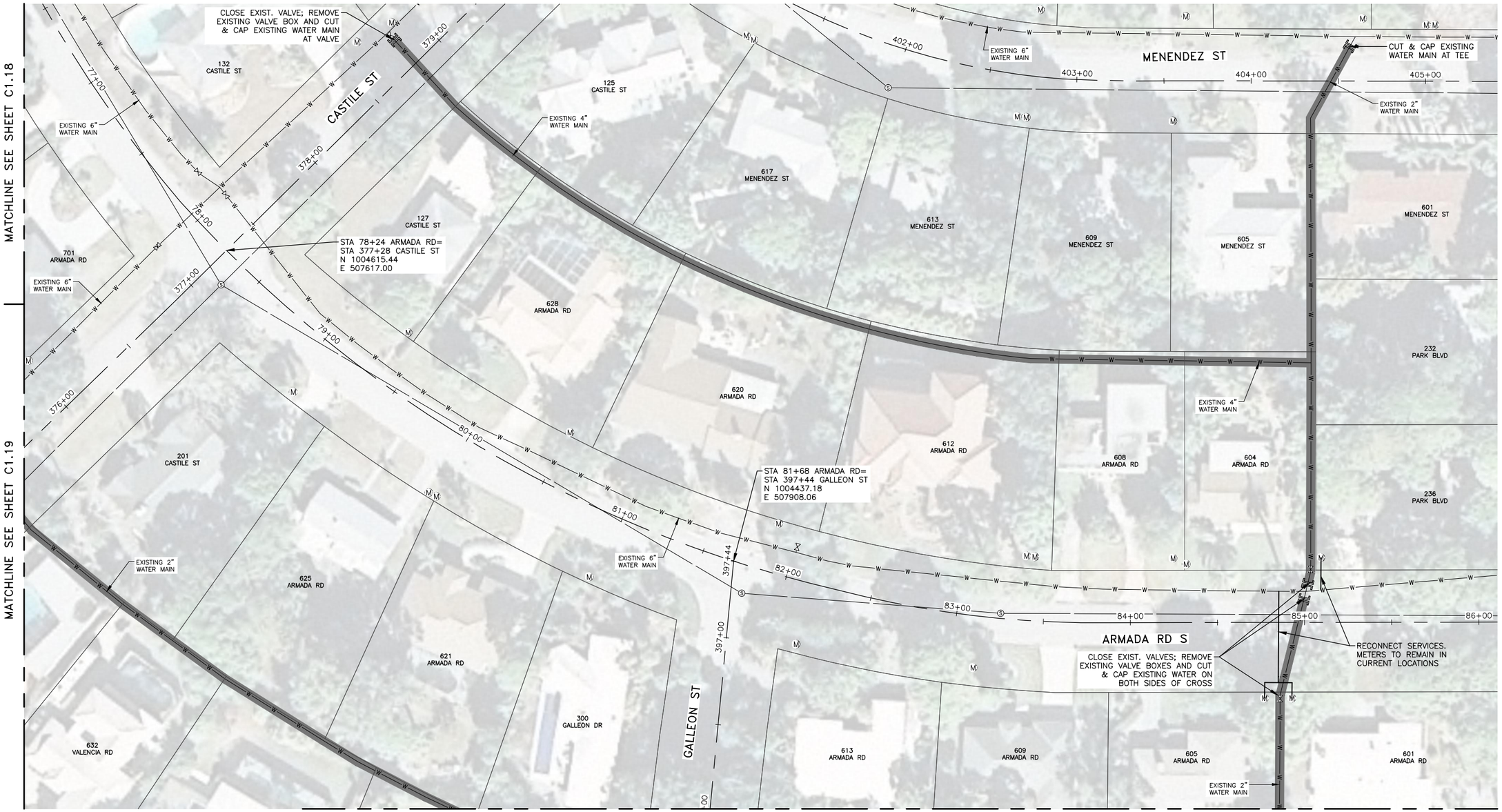
MATCHLINE SEE SHEET C1.18



MATCHLINE SEE SHEET C1.19

MATCHLINE SEE SHEET C1.22

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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MENENDEZ STREET
& ARMADA ROAD SOUTH

Venice, FL City on the Gulf

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SHEET C1.21

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PROJECT MANAGER:Holly Kremers P.E.
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FIELD BOOK INFORMATION:–

MATCHLINE SEE SHEET C1.21

MATCHLINE SEE SHEETS C1.20

MATCHLINE SEE SHEETS C1.23

MATCHLINE SEE SHEETS C1.24

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

VALENCIA ROAD

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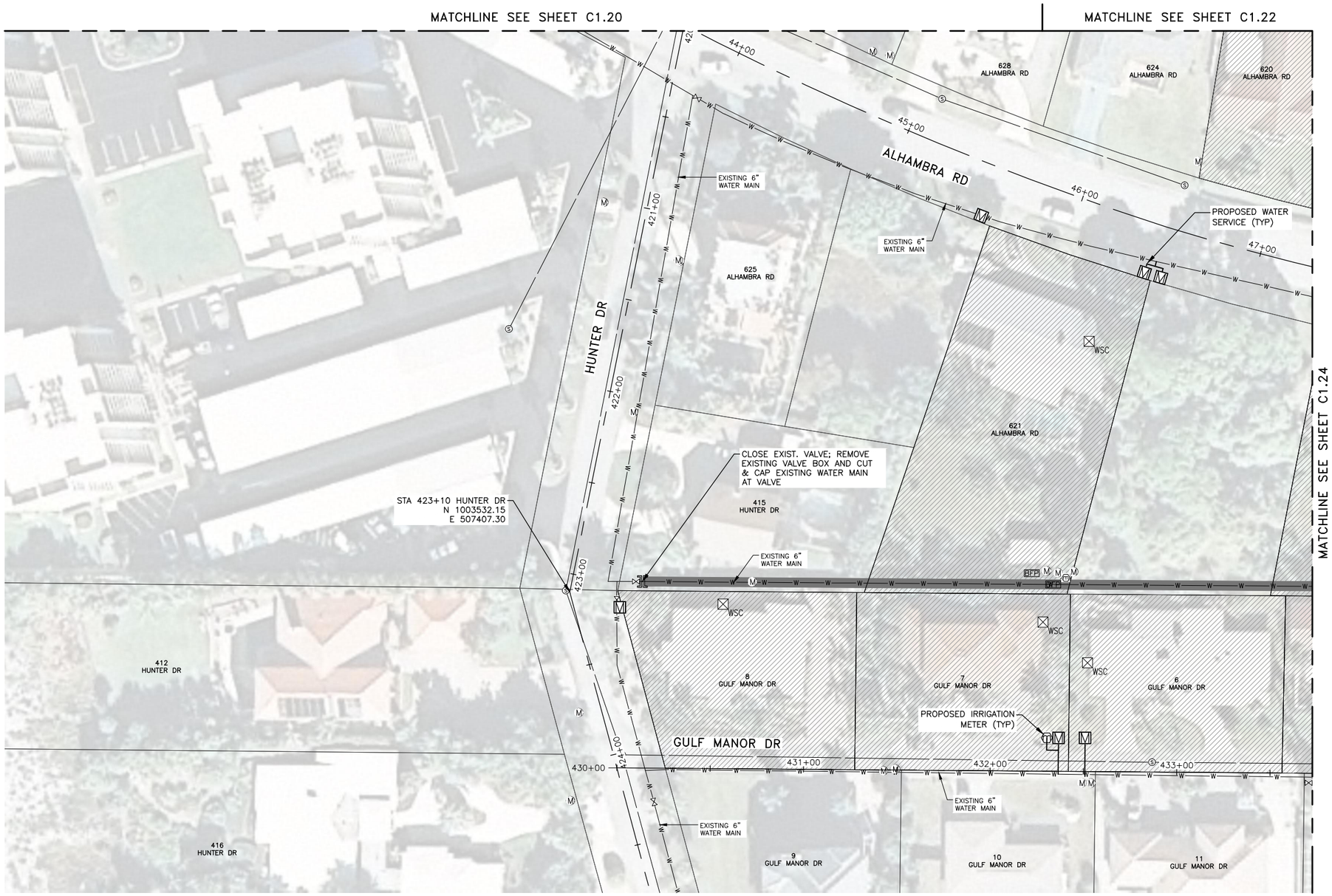

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

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CITY OF VENICE, FLORIDA
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SHEET C1.23

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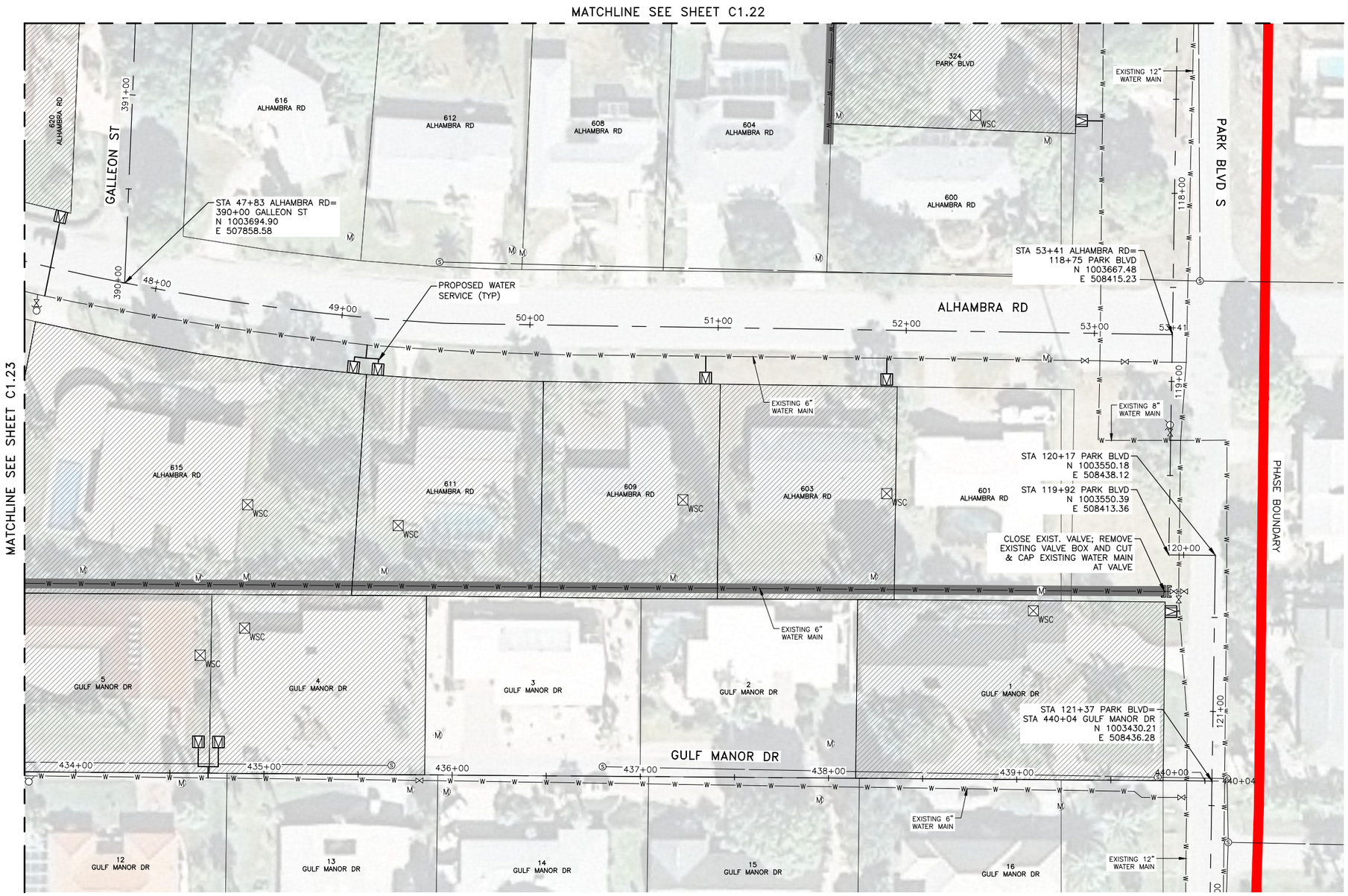

WATER SERVICE NOTE:

CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND NEW WATER SERVICE ROUTE ON PRIVATE PROPERTY WITH A CITY REPRESENTATIVE AND PROPERTY OWNER.

N

30 15 0 30 60

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SHEET C1.24

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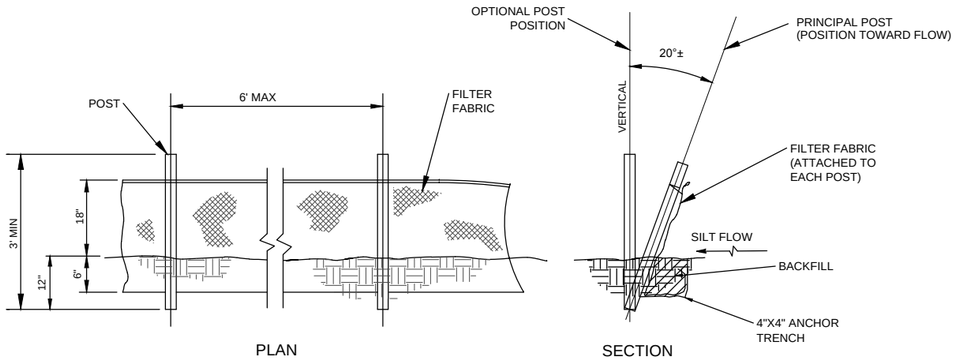
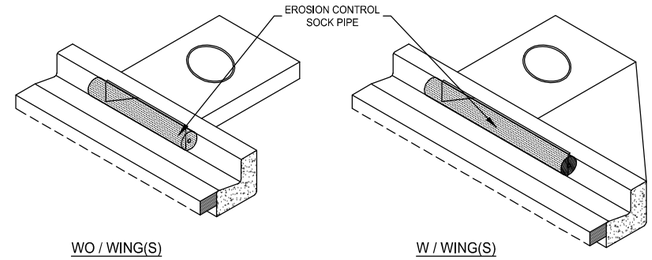
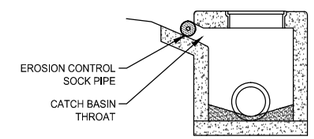


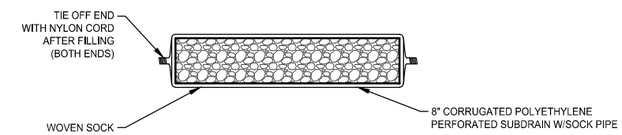
STEEL 1.33 LBS/FT MIN.) POST OPTIONS:
WOOD 2"X4" OR 2 1/2" DIA.

7 / - SILT FENCE

(FDOT INDEX No. 102)







CURB INLET FILTER SOCK SEDIMENTATION CONTROL

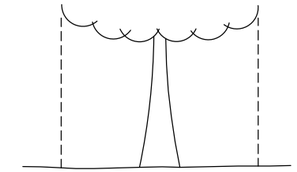


FIGURE A

THE DRIPLINE OF A TREE IS THE IMAGINARY, VERTICAL LINE THAT EXTENDS DOWNWARD FROM THE OUTERMOST TIPS OF THE TREE'S BRANCHES TO THE GROUND.

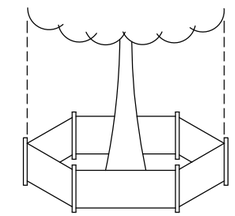


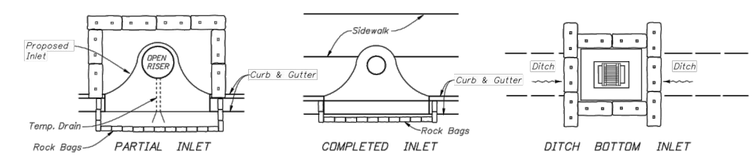
FIGURE B

FOUR CORNER UPRIGHT STAKES OF NO LESS THAN 2"X2" LUMBER CONNECTED BY HORIZONTAL MEMBERS OF NO LESS THAN 1"X4" LUMBER, OR UPRIGHT STAKES SPACED AT 5' INTERVALS OF NO LESS THAN 2"X2" LUMBER CONNECTED BY SILT SCREEN FABRIC OR MATERIAL OF COMPARABLE DURABILITY.

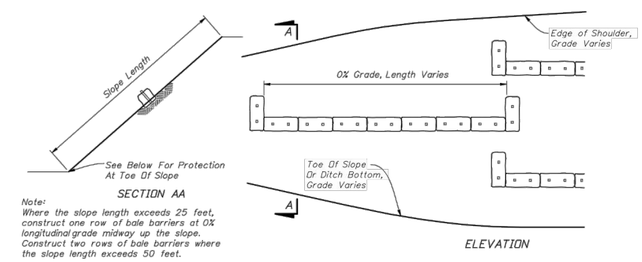
NOTE

DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES, IT SHALL BE UNLAWFUL TO REMOVE VEGETATION BY GRUBBING OR TO PLACE SOIL DEPOSITS, DEBRIS, SOLVENTS, CONSTRUCTION MATERIAL, MACHINERY OR OTHER EQUIPMENT OF ANY KIND WITHIN THE DRIPLINE OF A TREE TO REMAIN ON SITE.

TREE BARRICADE DETAIL

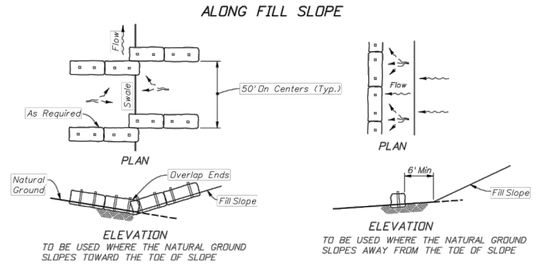


PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

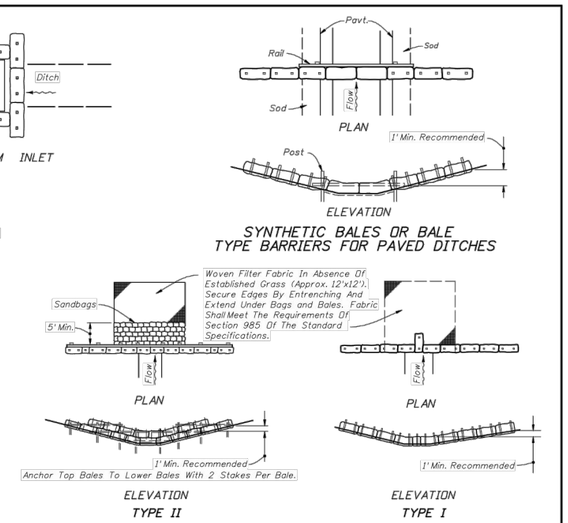


Note:
Where the slope length exceeds 25 feet, construct one row of bale barriers at 0% longitudinal grade midway up the slope. Construct two rows of bale barriers where the slope length exceeds 50 feet.

ALONG FILL SLOPE



AT TOE OF SLOPE
BARRIERS FOR FILL SLOPES



SYNTHETIC BALES OR BALE TYPE BARRIERS FOR PAVED DITCHES

SYNTHETIC BALES OR BALE TYPE BARRIERS FOR UNPAVED DITCHES

NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

1. Type I and II Synthetic Barrier should be spaced in accordance with Chart 1, Sheet 1.
2. Bales shall be anchored with 2-1" x 2" (or 1" dia.) x 4' wood stakes. Stakes of other material or shape providing equivalent strength may be used if approved by the Engineer. Stakes other than wood shall be removed upon completion of the project.
3. Rails and posts shall be 2" x 4" wood. Other materials providing equivalent strength may be used if approved by the Engineer.
4. Adjacent bales shall be butted firmly together.
5. Where used in conjunction with silt fence, bales shall be placed on the upstream side of the fence.
6. Bales to be paid for under the contract unit price for Synthetic Bales, LF. The unit price shall include the cost of filter fabric for Type I and II Barriers. Sandbags shall be paid for under the unit price for Sandbagging, CY. Rock bags to be paid for under the contract unit price for Rock Bags, EA.

2010 FDOT Design Standards	Last Revision 07/01/09	Sheet No. 2 of 3
TEMPORARY EROSION AND SEDIMENT CONTROL	Index No. 102	

REV#	DATE	DESCRIPTION	BY

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CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

EROSION AND SEDIMENTATION CONTROL DETAILS

Venice, FL City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

JOB NO. VEN2016.01M

SHEET D1.00

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM - PHASE II

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PROJECT MANAGER:Holly Kremers P.E.
C:\PW_WORK\KAHLGRIM\D0437226\CDT-PLTS-VENICE PHS2-D1.00.DWG - D1.00 - PLOTTED 4/14/2014 3:22 PM BY AHLGRIM, KURT
FIELD BOOK INFORMATION:

MINIMUM LENGTH (FT) OF FORCE MAIN TO BE RESTRAINED ON EACH SIDE OF FITTINTG										
FITTING		PIPE SIZE (INCHES)								
		4	6	8	10	12	16	18	20	24
45 BEND:	H	6	9	12	14	18	21	23	25	29
	VU	4	6	7	9	10	13	15	16	19
	VD	12	20	26	33	37	48	53	28	68
22.5 BEND:	H	3	4	6	7	8	10	11	12	14
	VU	2	3	4	4	5	6	7	8	9
	VD	7	10	13	15	18	23	26	28	33
11.25 BEND:	H	2	2	3	3	4	5	5	6	7

MINIMUM LENGTH (FT) OF WATER OR REUSE MAIN TO BE RESTRAINED ON EACH SIDE OF FITTINTG										
FITTING		PIPE SIZE (INCHES)								
		4	6	8	10	12	16	18	20	24
90 BEND:	H	23	33	43	51	60	76	83	90	104
45 BEND:	H	10	14	18	21	25	31	34	37	43
	VU	6	8	11	13	16	20	22	24	28
	VD	22	30	40	48	56	72	80	87	102
22.5 BEND:	H	5	7	8	10	12	15	17	18	21
	VU	3	4	5	6	7	10	11	12	14
	VD	10	15	19	23	27	35	38	42	49
11.25 BEND:	H	2	3	4	5	6	7	8	9	10
PLUGS:		52	73	96	115	136	174	193	211	246

ABBREVIATIONS: H=HORIZONTAL, VU=VERTICAL UP, VD=VERTICAL DOWN.

NOTES:

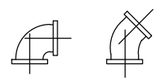
1.) FOR TEE OR REDUCER FITTINGS SUBMIT RESTRAINED JOINT LENGTH CALCULATIONS TO CITY ENGINEER FOR REVIEW AND APPROVAL, USING THE ASSUMPTIONS LISTED

2.) RESTRAINED JOINT LENGTH FOR WATER AND REUSE MAINS BASED ON TEST PRESSURE OF 150 PSI. RESTRAINED JOINT LENGTH FOR FORCE (SEWER) MAINS BASED ON TEST PRESSURE OF 100 PSI. CALCULATIONS WERE MADE USING EBAA IRON SOFTWARE (AVAILABLE AT WWW.EBAA.COM) AND THE FOLLOWING ASSUMPTIONS:
GRANULAR MATERIAL (GM) SOIL TYPE, TRENCH TYPE 3, BURY DEPTH OF 3 FT, AND SAFETY FACTOR OF 2 TO 1. IF FIELD CONDITIONS DIFFER FROM ABOVE ASSUMPTIONS EOR SHALL PROVIDE CALCULATIONS BASED ON ACTUAL CONDITIONS.

3.) RESTRAINED JOINT SHALL BE USED ON ALL JOINTS FROM ANY MAIN TEE TO ANY FIRE HYDRANT ASSEMBLY.

4.) THRUST BLOCKS WILL NOT BE ACCEPTED, UNLESS OTHERWISE NOTED ON PLANS AND APPROVED BY CITY ENGINEER.

2 - PRESSURE MAIN RESTRAINED JOINT TABLES

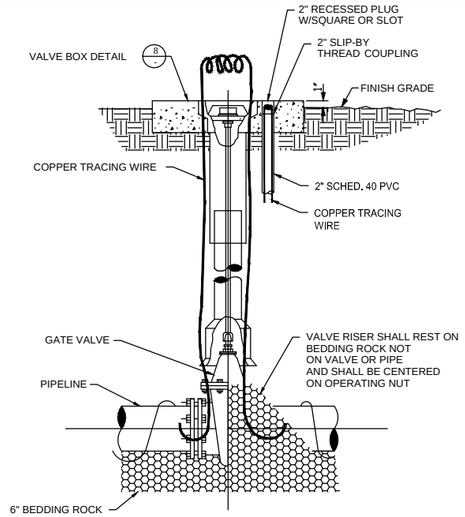


1.) ALL PIPE FITTINGS SHALL BE COMPACT, DUCTILE IRON.

2.) ALL APPLICATIONS (RAW, POTABLE, REUSE, SEWER) SHALL BE FUSION BONDED EPOXY COATED INSIDE AND OUT.

3.) ALL FITTINGS SHALL MEET ANSI/AWWA C116/A21.16 STANDARDS.

7 - PIPE FITTINGS



NOTES:

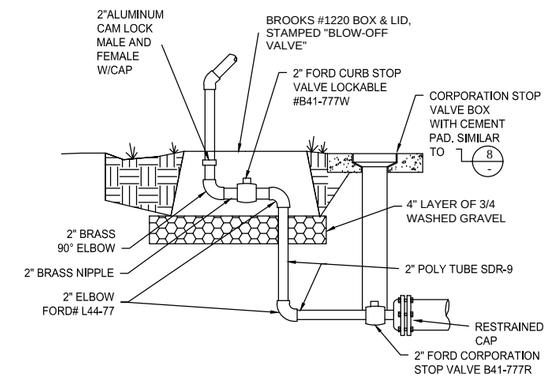
1.) GATE VALVES SHALL BE RESILIENT WEDGE-TYPE MANUFACTURED BY MUELLER, AMERICAN VALVE, OR EQUAL. ALL GATE VALVES SHALL BE FUSION BONDED EPOXY COATED (INTERIOR AND EXTERIOR) MEET ANSI/AWWA C55O, AND BE NSF61 CERTIFIED.

2.) FOR VALVES LARGER THAN 12" IN DIAMETER AN OFFSET GEAR ACTUATED OPERATOR IS REQUIRED.

3.) VALVE SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.

4.) COPPERHEAD TRACING WIRE PART #1230HS #12 AWG SHALL BE USED. IT SHALL BE COLOR CODED TO REFLECT WHAT THE PIPE CARRIES. (BLUE = WATER, PURPLE = REUSE)

2 - GATE VALVE DETAIL
(WATER AND REUSE ONLY)



NOTES:

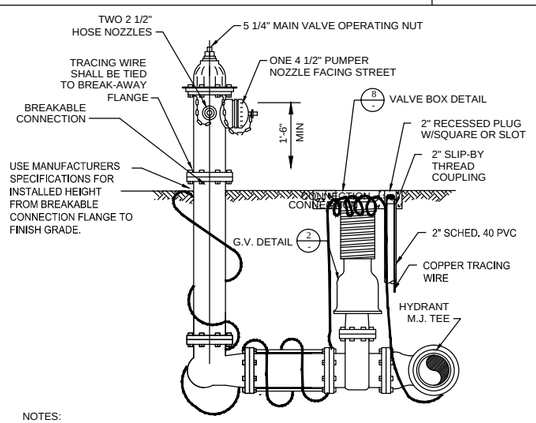
1.) FOR ALL DEAD-END WATER MAINS.

2.) ABOVE GROUND PIPING CAN BE PVC.

3.) ABOVE GROUND PIPING SHALL BE REMOVED BY CONTRACTOR PRIOR TO CITY ACCEPTANCE.

4.) BLOW OFF CAPS WILL BE RESTRAINED ACCORDING TO DETAIL 2, PAGE WSR-3 OF THESE STANDARD DETAILS. AUTOMATIC BLOW OFFS WILL BE ALLOWED UPON COV APPROVAL.

7 - DEAD-END BLOW-OFF DETAIL
(PERMANENT)



NOTES:

1.) POTABLE WATER FIRE HYDRANTS SHALL BE PAINTED "SAFETY YELLOW" (BENJAMIN MOORE- URETHANE ALKYD GLOSS ENAMEL #M2215.

2.) REUSE FIRE HYDRANTS SHALL BE PAINTED PANTONE PURPLE 522C AND TAGGED WITH A PERMANENT LABEL "RECLAIMED WATER-DO NOT DRINK."

3.) HYDRANT SHALL BE MUELLER SUPER CENTURIAN MODEL A423, AMERICAN B84BV WITH BREAK-AWAY FEATURE. ALL BOLTS SHALL BE SS (BONNET, SAFETY FLANGE, SHOE).

4.) RESTRAINED JOINTS SHALL BE USED BETWEEN TEE AND HYDRANT.

5.) BAG HYDRANT UNTIL MAINS PASS.

6.) ALL WEEP HOLES SHALL BE PLUGGED.

7.) PER FLORIDA ADMINISTRATIVE CODE 62-555.314 (4) HYDRANT LOCATED AT LEAST 3' OR MORE FROM ANY STORM WATER PIPE OR DITCH. AT LEAST 6' OR MORE FROM ANY SANITARY SEWER STRUCTURE.

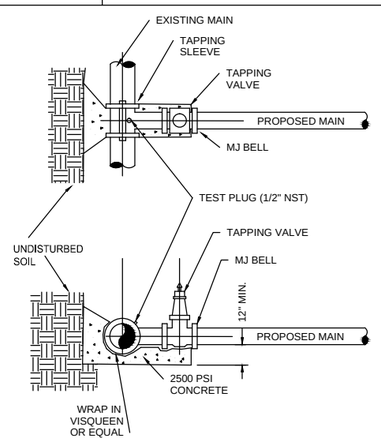
8.) FOR CLEARANCE ISSUES, PLEASE REFER TO CURRENT FLORIDA FIRE PREVENTION CODE REQUIREMENTS.

9.) COPPERHEAD TRACING WIRE PART #1230HS #12 AWG SHALL BE USED. IT SHALL BE COLOR CODED TO REFLECT WHAT THE PIPE CARRIES. (BLUE = WATER, PURPLE = REUSE)

10.) FIRE HYDRANT ASSEMBLY SHALL BE BEDDED IN 8" OF #57 STONE OR EQUIVALENT.

11.) FIRE HYDRANT ASSEMBLY INCLUDES GATE VALVE.

4 - FIRE HYDRANT ASSEMBLY



NOTES:

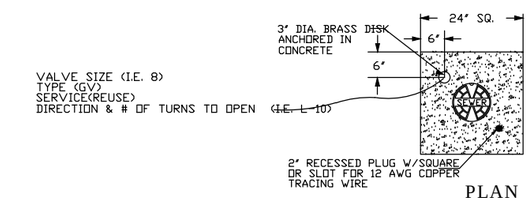
1.) EXISTING MAIN SHALL NOT BE TAPPED UNTIL THE ASSEMBLED SLEEVE AND VALVE ARE TESTED IN PLACE AT A MINIMUM OF 150 PSI FOR THIRTY MINUTES.

2.) UPON SUCCESSFUL TAPPING SLEEVE PRESSURE TEST (NOTE 1), THE THRUST BLOCK SHALL BE POURED AND HAVE SET FOR 24 HRS PRIOR TO TAPPING. READY-MADE THRUST BLOCKS CAN BE USED WITH CITY APPROVAL.

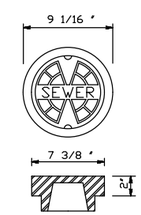
3.) STAINLESS STEEL TAPPING SLEEVE SHALL BE FORD. ALL HARDWARE SHALL BE STAINLESS STEEL. GASKETS SHALL BE VIRGIN SBR COMPOUND FOR WATER SERVICE.

4.) GATE VALVES SHALL BE RESILIENT WEDGE-TYPE MANUFACTURED BY MUELLER OR AMERICAN VALVE. ALL GATE VALVES SHALL BE FUSION BONDED EPOXY COATED (INTERIOR AND EXTERIOR) MEET ANSI/AWWA C55O, AND BE NSF61 CERTIFIED.

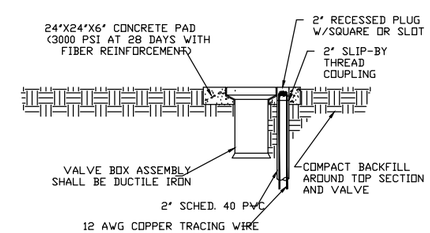
5 - TAPPING SLEEVE AND VALVE DETAIL
SCALE: NONE



PLAN



COVER DETAIL
APPROPRIATE SERVICE SHALL BE INDICATED



PROFILE

NOTES:

1.) PAVED AREAS: SET CONCRETE PAD AND COVER FLUSH WITH FINISHED PAVEMENT SURFACE.

2.) UNPAVED AREAS: SET PAD AND COVER 1 INCH ABOVE FINISHED GRADE.

3.) VALVES LOCATED IN DITCH AND OVER 4' DEPTH (LINE) MUST USE TRENCH ADAPTER VALVE BOX (AMERICAN FLOW CONTROL).

4.) COPPERHEAD TRACING WIRE PART #1230HS #12 AWG SHALL BE USED. IT SHALL BE COLOR CODED TO REFLECT WHAT THE PIPE CARRIES. (BLUE = WATER, GREEN = SEWER, PURPLE = REUSE)

5.) PRE-CAST PADS MAY BE USED WITH CITY APPROVAL.

8 - VALVE BOX DETAIL
SCALE: NONE

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PHASE 2
WATER MAIN REPLACEMENT PROGRAM

POTABLE WATER DETAILS

Venice, FL City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

JOB NO. VEN2016.01M

SHEET D1.01

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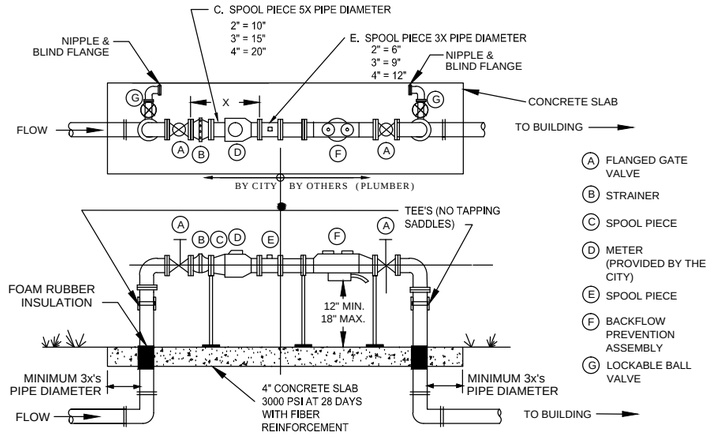


NOTES:

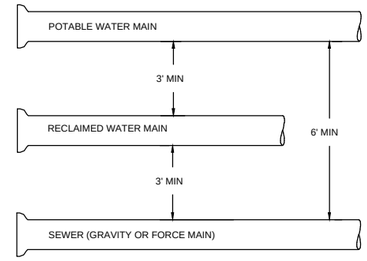
1.) EITHER 90°-DEGREE OR 45°-DEGREE FITTINGS MAY BE USED WITH THE REQUIRED LENGTH OF RESTRAINED JOINT FITTINGS.
2.) B. F. P. A. SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE COV CROSS CONNECTION CONTROL MANUAL. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE APPROVED BY THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH AND/OR ASSE 1013.
3.) ALL CONCRETE PENETRATIONS SHALL REQUIRE PIPE TO BE WRAPPED WITH INSULATING MATERIAL
4.) VALVES SHALL BE NON-RISING STEM TYPE.
5.) ALL METERS 1 1/2 & UP WILL HAVE FLANGES.
6.) PIPE BETWEEN TAP & ISOLATION VALVE SHALL BE C900 PVC OR DUCTILE.
7.) THE WATER METER AND BACKFLOW PREVENTER SHALL BE THE SAME SIZE.
8.) 2" AND SMALLER METERS REQUIRE A LOCKABLE CURB STOP. 3" AND LARGER METERS WILL HAVE A FLANGED WHEEL HANDLE GATE VALVE.
9.) NO SPOOL PIECE REQUIRED FOR 3/4", 1", OR 1 1/2".
10.) ALL COMMERCIAL AND MULTI FAMILY UNIT METERS MUST BE ABOVE GRADE.
11.) BACKFLOW PREVENTION ASSEMBLY NOT REQUIRED FOR REUSE METER.

METER SIZE (IN.)	BY-PASS SIZE
3/4"	3/4"
1"	3/4"
1 1/2"	1"
2"	1 1/2"
3"	2"
4"	3"

METER SIZE (IN.)	X (IN.)
3/4"	7 1/2"
1"	11"
1 1/2"	13 1/8"
2" PD	17"
2" COMPOUND	15 1/4"
3"	17"
4"	20"

2 - WATER & REUSE METER & BACKFLOW PREVENTION ASSEMBLY

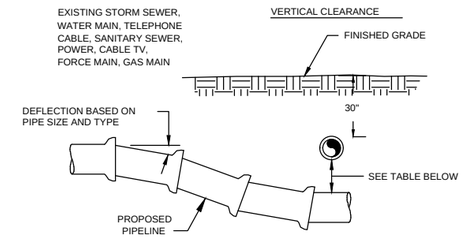
COMMERCIAL / MULTI-UNIT MASTER METER (WITH BY PASS)



MINIMUM HORIZONTAL SEPARATION DISTANCES (FT)

(OUTSIDE OF PIPELINE TO OUTSIDE OF PIPELINE)

	WATER MAIN	FORCE MAIN	SANITARY SERVICE	REUSE MAIN	STORM WATER	OTHER UTILITIES (TELEPHONE, CABLE, ETC.)
WATER MAIN	3	6	6	3	3	3
FORCE MAIN	6	3	3	3	3	3
SANITARY SEWER	6	3	3	3	3	3
REUSE MAIN	3	3	3	3	3	3
STORM WATER	3	3	3	3	3	3
OTHER UTILITIES	3	3	3	3	3	3



MINIMUM VERTICAL SEPARATION DISTANCES (IN)

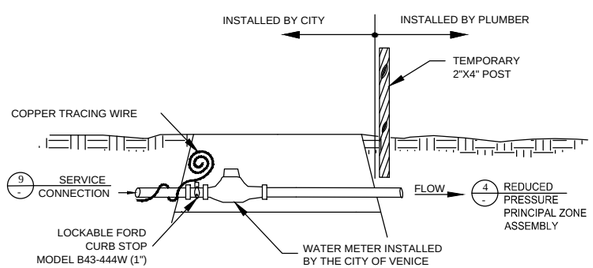
(OUTSIDE OF PIPELINE TO OUTSIDE OF PIPELINE)

	WATER MAIN	FORCE MAIN	SANITARY SERVICE	REUSE MAIN	STORM WATER	OTHER UTILITIES (TELEPHONE, CABLE, ETC.)
WATER MAIN	6	12	12	6	6	6
FORCE MAIN	12	6	6	6	6	6
SANITARY SEWER	12	6	6	6	6	6
REUSE MAIN	6	6	6	6	6	6
STORM WATER	6	6	6	6	6	6
OTHER UTILITIES	6	6	6	6	6	6

NOTES:

1.) MAXIMUM JOINT DEFLECTION SHALL BE 90% OF MANUFACTURER'S RECOMMENDATION.
2.) WHEREVER POSSIBLE, THE STRATIGRAPHY OF UTILITIES SHALL PLACE SANITARY SEWER AND SEWER FORCE MAINS BELOW RECLAIMED MAINS AND BELOW WATER MAINS, RESPECTIVELY. WHERE WATER MAINS ARE ABOVE GRAVITY SEWERS OR WASTEWATER FORCE MAINS, A VERTICAL CLEARANCE OF 6 INCHES IS ACCEPTABLE.
3.) ACCEPTABLE VARIANCES
   A. WHERE HORIZONTAL SEPARATION CANNOT BE MAINTAINED, C900 DR14 PVC PIPE SHALL BE USED FOR ONE OF THE PIPELINES.
   B. WHERE VERTICAL CLEARANCE CANNOT BE MAINTAINED, ONE FULL LENGTH OF DR14 C900 PIPE SHALL BE INSTALLED CENTERED AT THE POINT OF CROSSING.
   C. WHERE 30" MINIMUM DEPTH OF COVER CANNOT BE MAINTAINED, SPECIAL PROTECTION OR PIPE MATERIAL UPGRADE MAY BE REQUIRED, AT THE DISCRETION OF THE CITY ENGINEER.
4.) NO WATER PIPE SHALL PASS THROUGH, OR COME IN CONTACT WITH ANY PART OF A SANITARY MANHOLE OR STORMWATER STRUCTURE.

5 - UTILITY CONFLICT DETAILS

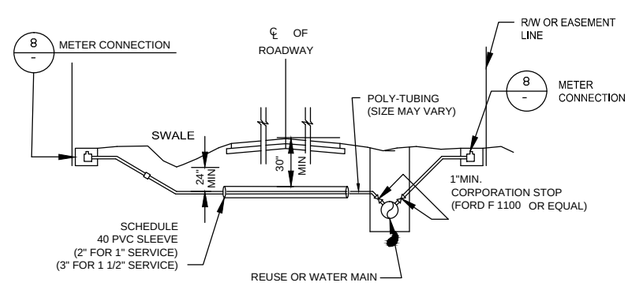


NOTES:

1.) THE POTABLE WATER SYSTEM SHALL USE A BROOKS MODEL# 1220 BLACK PLASTIC METER BOX WITH METAL READER AND BLACK SOLID RODS.
2.) CENTER METER IN BOX.
3.) BLOCK ENDS OF BOX TO PREVENT DIRT FROM ENTERING.
4.) COPPERHEAD TRACING WIRE PART #1230HS #12 AWG SHALL BE USED. IT SHALL BE COLOR CODED TO REFLECT WHAT THE PIPE CARRIES. (BLUE = WATER).
5.) CURB STOP MUST BE LOCATED IN BOX.

6 - RESIDENTIAL WATER METER

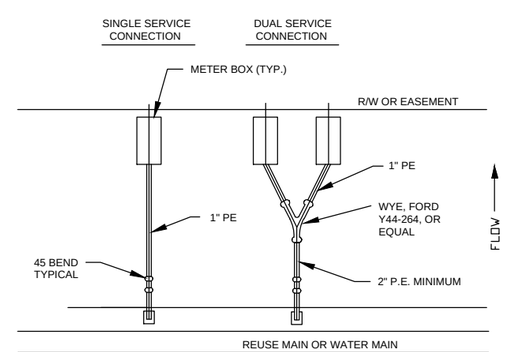
RESIDENTIAL USE ONLY



NOTES:

1.) TAPS SHALL NOT BE CLOSER THAN TWO FEET APART OR WITHIN TWO FEET OF ANY JOINT.
2.) TAPS IN MULTIPLE GROUPS SHALL NOT BE MADE IN THE SAME LONGITUDINAL LINE OF THE PIPE BUT MUST BE STAGGERED VERTICALLY.
3.) TAPPING SADDLE SHALL BE EPOXY COATED, DUCTILE IRON BODY WITH STAINLESS STEEL BAND(S) AND HARDWARE.
4.) BRASS FITTINGS AND BALL VALVES SHALL BE FORD F1100 OR EQUAL.
5.) ALL SERVICES SHALL BE 1" MIN, FROM THE CORPORATION STOP TO THE CURBSTOP, ALL SERVICES SHALL HAVE COPPER TRACING WIRE.
6.) ALL SLEEVE ENDS SHALL BE SEALED WITH FOAM SEAL.
7.) STEEL INSERT STIFFENERS WILL NOT BE ACCEPTABLE..

9 - SERVICE CONNECTIONS



8 - METER CONNECTION

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VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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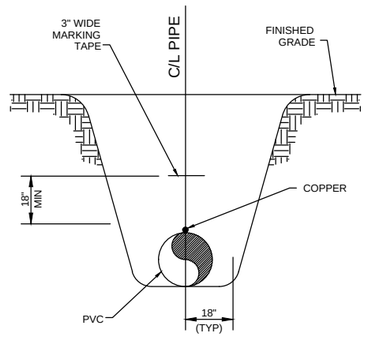


MARKING TAPE AND MESSAGES		
PIPE	TAPE COLOR	MESSAGE
PVC STORM WATER	WHITE	CAUTION STORM WATER OR STORM DRAIN BELOW
POTABLE WATER MAIN	BLUE	CAUTION POTABLE WATER MAIN BELOW
REUSE WATER MAIN	PURPLE	CAUTION REUSE WATER MAIN BELOW
SEWER FORCE MAIN	GREEN	CAUTION SEWER FORCE MAIN BELOW
SEWER & SERVICE LATERALS	GREEN	CAUTION SEWER MAIN BELOW

NOTES:

1.) COPPERHEAD TRACING WIRE PART #1230HS #12 AWG SHALL BE ATTACHED TO TOP OF PIPE AT 20' INTERVALS ON ALL RECLAIMED WATER, FORCE,

THE PIPE CARRIES. (BLUE = WATER, GREEN = SEWER, PURPLE = REUSE)

2.) MINIMUM COVER SHALL BE 30" FROM TOP OF PIPE TO FINISHED GRADE MAXIMUM COVER SHALL BE 42" FROM FINISHED GRADE UNLESS OTHERWISE APPROVED.

3.) INSTALLATION OF PIPE SHALL BE IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.

4.) PAVEMENT RESTORATION SHALL CONFORM WITH DETAIL 7, SHEET 3 OF THESE CITY STANDARDS.

5.) CONFLICTS - UTILIZE 45° BENDS WITH SEPARATION AS PER DETAIL 5, SHEET 6.

6.) ALL UTILITIES (PUBLIC & PRIVATE) THAT CROSS A DITCH/SWALE SHALL BE 36" MIN. BELOW THE ACTUAL/DESIGN BOTTOM OF CONVEYANCE.

1 - PIPE TRENCH

1.) A DRILLING BORE LOG SHALL BE SUBMITTED WITHIN SEVEN (7) DAYS OF PERFORMING THE BORE. DEPTHS SHALL BE RECORDED AT A MAXIMUM OF EVERY TEN (10) FEET. RECORD DRAWINGS SHALL INDICATE ELEVATIONS.

2.) ALL DBs SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE) WITH DR-11 MINIMUM OR EQUAL.

3.) PIPE SHALL BE COLOR-CODED BY THE PIPE MANUFACTURED DURING FABRICATION INDICATING APPROPRIATE SERVICE.

4.) AIR RELEASE VALVES SHALL BE INSTALLED ON THE UPSTREAM SIDE OF THE BORE.

5.) WELDED MJ ADAPTERS ARE REQUIRED AT BOTH ENDS OF THE BORE. STEEL INSERT STIFFENERS WILL NOT BE ACCEPTABLE.

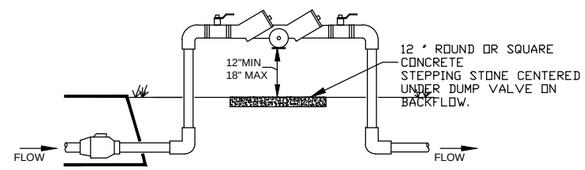
6.) TRACE WIRES REQUIRED. SECURE TO PIPE PRIOR TO PULLING.

7.) ISOLATION VALVE SHALL BE INSTALLED ON BOTH SIDES OF DIRECTIONAL BORE.

8.) DIRECTIONAL BORING MUST BE COMPLETED BETWEEN THE HOURS OF 8:00 A.M. AND 3:00 P.M.

9.) ALL D.B.'S CROSSING A DITCH/SWALE MUST BE AT LEAST 36" BELOW ACTUAL/DESIGN BOTTOM OF CONVEYANCE.

10 - DIRECTIONAL BORING (DB)



NOTES:

1.) ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE APPROVED BY THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH AND/OR ASSE 1013.

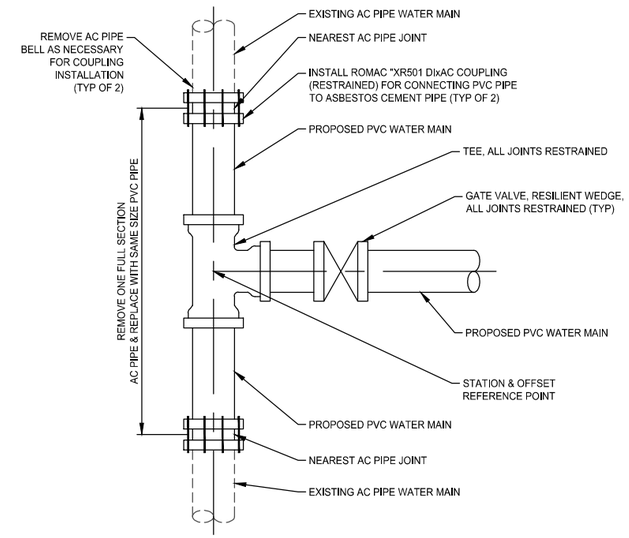
2.) SHALL BE INSTALLED AT ALL SITES.

3.) ALL PIPING SHALL BE RIGID COPPER.

4.) THE WATER METER AND BACKFLOW PREVENTER SHALL BE THE SAME SIZE.

4 - RESIDENTIAL REDUCED PRESSURE PRINCIPAL ASSEMBLY

SINGLE FAMILY RESIDENTIAL - ALL SIZES



AC PIPE TIE-IN DETAIL

SCALE: NONE

SERVICE	COLOR	MATERIAL	CLASS
POTABLE WATER MAIN	BLUE	AWWA C900	DR 18
WATER SERVICE	BLUE	PE (POLYTUBING)	DR 9
RAW WATER MAIN	WHITE	AWWA C900	DR 18
REUSE MAIN	PURPLE	AWWA C900	DR 18
REUSE SERVICE	PURPLE	PE (POLYTUBING)	DR 9
FORCE MAIN (MIN. 4" DIAMETER)	GREEN	AWWA C900	DR 18
GRAVITY SEWER MAIN (MIN. 8" DIAMETER)	GREEN	ASTMD3034	SDR26
SEWER LATERAL (MIN. 6" DIAMETER)	GREEN	ASTMD3034	SDR26 SDR35 SCH 40 PVC

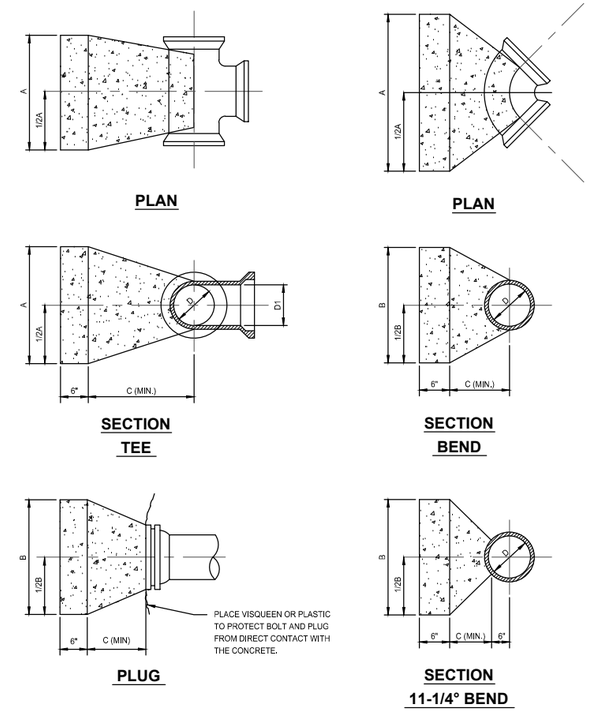
6 - PIPE SCHEDULE

DIAMETER OF PIPE D	90° BEND			45° BEND			22-1/2° BEND			11-1/4° BEND			PLUG		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
6"	2'0"	18"	9"	18"	18"	12"	15"	21"	12"	12"	21"	12"	18"	18"	9"
8"	2'9"	2'0"	12"	2'0"	2'0"	15"	15"	21"	12"	12"	21"	12"	2'0"	2'0"	12"
10" & 12"	4'0"	3'0"	15"	3'3"	3'0"	18"	2'0"	3'0"	15"	15"	3'0"	15"	3'0"	3'0"	15"
14"	5'0"	3'6"	18"	3'6"	3'6"	18"	2'6"	3'6"	18"	18"	3'6"	18"	3'6"	3'6"	18"
16" & 18"	5'6"	4'0"	18"	4'0"	4'0"	21"	3'0"	4'0"	18"	2'0"	4'0"	18"	4'0"	4'0"	18"
20"	7'0"	4'0"	21"	7'0"	4'0"	21"	3'9"	4'0"	21"	2'6"	4'0"	21"	6'0"	4'0"	21"
24"	8'0"	5'0"	24"	8'0"	5'0"	24"	4'0"	5'0"	24"	2'9"	5'0"	24"	7'0"	5'0"	24"

NOTE:
THRUST BLOCKS WILL NOT BE ACCEPTED, UNLESS OTHERWISE NOTED ON PLANS AND APPROVED BY THE CITY ENGINEER.

TEE			
DIAMETER		T.B.	
D	D1	A	C
8"	8"	2'0"	21"
12"	8"	2'0"	21"
16"	8"	2'0"	21"
12"	12"	3'0"	2'0"
16"	12"	3'0"	2'0"
20"	12"	3'0"	2'0"
24"	12"	3'0"	2'0"
16"	16"	4'0"	2'3"
20"	16"	4'0"	2'3"
24"	16"	4'0"	2'3"

STANDARD THRUST BLOCKS



THRUST BLOCK DETAILS

NO SCALE

REV#	DATE	DESCRIPTION	BY

NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND DATED:

WADETRIM
8010 Woodland Center Boulevard
Suite 1200, Tampa, FL 33614
813.882.2,573/885.495.9624 FAX: 813.888.7215
Certificate of Authorization No.: 3082
www.wadetrim.com

Building relationships on a foundation of excellence

CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

POTABLE WATER DETAILS

Venice, FL
City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

JOB NO.
VEN2016.01M

SHEET
D1.03

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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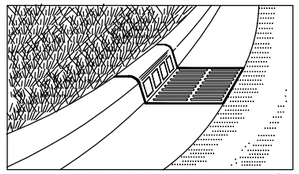
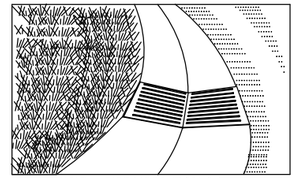
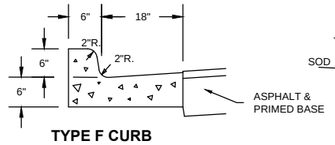
PROJECT MANAGER:Holly Kremers P.E.
FIELD BOOK INFORMATION:--
C:\PW_WORK\KAHLGRIM\D0437226\CDT-PLTS-VENICE PHS2-D1.01 TO D1.06--DWG - D1.03 - PLOTTED 4/14/2014 3:22 PM BY AHLGRIM, KURT



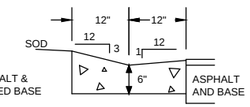
INLET IN TYPE F CURB



INLET IN MIAMI CURB



TYPE F CURB



MIAMI CURB

1.) ALL STREETS SHALL HAVE A TWO-FOOT WIDE CONCRETE (3000 PSI AT 28 DAYS WITH FIBER REINFORCEMENT) CURB AND GUTTER, AND MEET OR EXCEED FDOT SPECIFICATIONS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

2.) ALTERNATE CURB DESIGNS THAT MEET OR EXCEED FDOT SPECIFICATIONS MAY BE USED UPON APPROVAL BY THE CITY ENGINEER.

1 - CURB DETAILS

A.) HEAVY DUTY: COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WITHIN PRIMARY ACCESSWAYS, PARKING LOTS, ETC. WITH EXPOSURE TO TRUCK TRAFFIC

B.) LIGHT DUTY: RESIDENTIAL SUBDIVISIONS AND COMMERCIAL DEVELOPMENTS WITHIN LOW VOLUME ACCESSWAYS, PARKING LOTS, ETC. (LESS THAN 10% TRUCK TRAFFIC)

	A	B
SUBGRADE - TYPE B STABILIZED LBR 40 MIN.	12"	8"
ABC3 - ASPHALT BASE	5"	4"
CTB	10"	7"
CCA	10"	7"
ASPHALTIC CONCRETE	1 1/2" OF S-1	1 1/2" OF S-1/S-3

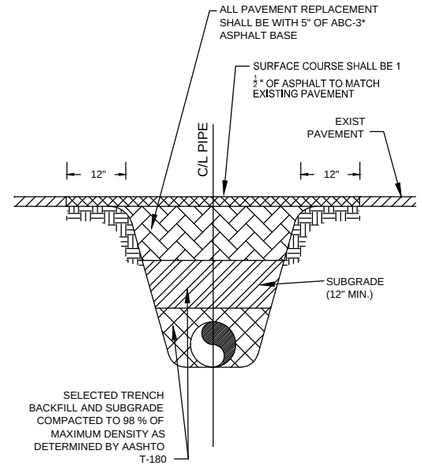
ALTERNATE PAVEMENT FOR PARKING LOTS ONLY:

SUBGRADE - 12" TYPE B STABILIZED LBR 40 MIN.

PAVEMENT - 6" CONCRETE 3000PSI @28 DAYS WITH MAX. 4" SLUMP & FIBER REINFORCEMENT.

NOTE: ALL TRAFFIC CALMING DEVICES MUST BE APPROVED BY THE FIRE CHIEF.

4 - PAVEMENT STANDARDS



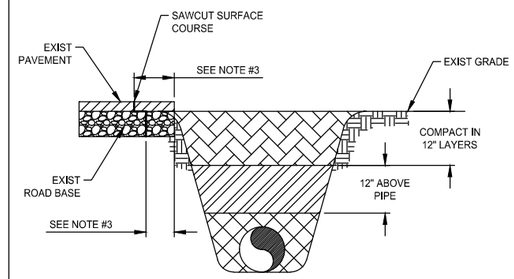
NOTES:

1.) ALTERNATIVE BASE COURSE MATERIALS WITH EQUIVALENT STRUCTURAL THICKNESSES WILL BE CONSIDERED. HOWEVER, SHELL IS UNACCEPTABLE. CEMENT TREATED BASE MATERIAL MUST YIELD COMPRESSIVE STRENGTH WITHIN THE RANGE OF 175 TO 275 PSI. CRUSH CONCRETE AGGREGATE MUST HAVE AN LBR ≥ 150.

2.) REQUIREMENTS FOR INSTALLATION OF PIPELINES IS SHOWN IN DETAIL 1, SHEET 4 OF THESE STANDARDS.

3.) FLOWABLE FILL CONCRETE MAY BE USED IN LIEU OF BACKFILL AND PAVEMENT SUBCOURSES WITH APPROVAL BY THE CITY ENGINEER. DESIGN AND ACCEPTANCE OF FLOWABLE FILL WILL BE GOVERNED BY APPLICABLE FDOT STANDARDS.

7 - PAVEMENT RESTORATION FOR UTILITY TRENCHES

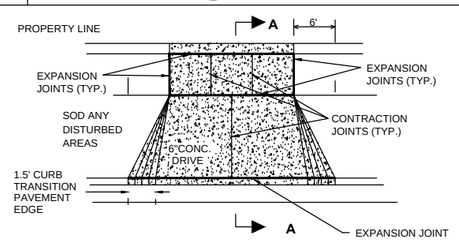


NOTES:

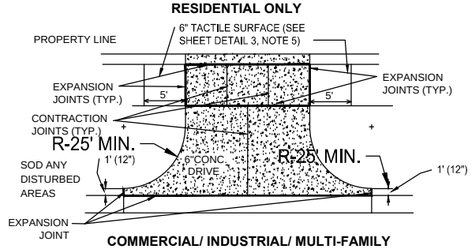
1. TRENCHED LOCATED UNDER PAVEMENT OR INSIDE THE 2' HORIZONTAL TO 1' VERTICAL SLOPE, DOWNWARD FROM THE ROADWAY SHOULDER OR THE BACK OF CURB AND FROM THE SPRING LINE TO THE BOTTOM OF SUBGRADE OR THE FINISHED SURFACE OF THE EMBANKMENT, AS APPROPRIATE, SHALL BE COMPACTED TO A DENSITY OF 98% AS DETERMINED BY AASHTO T-180.
2. TRENCHES LOCATED OUTSIDE OF THE 2' HORIZONTAL TO 1' VERTICAL SLOPE DOWNWARD FROM THE ROADWAY SHOULDER OR THE BACK OF CURB AND WHERE NO VEHICULAR TRAFFIC WILL PASS OVER THE TRENCHES, BACKFILL SHALL BE COMPACTED TO A DENSITY APPROXIMATELY EQUAL TO THAT SOIL ADJACENT TO THE TRENCH BUT NOT LESS THAN 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD-C.
3. REMOVAL AND REPLACEMENT OF PAVEMENT AND ROAD BASE SHALL BE MADE IN ACCORDANCE WITH APPLICABLE LOCAL REGULATIONS.

TYPICAL TRENCH BACKFILL DETAIL

SCALE: NONE

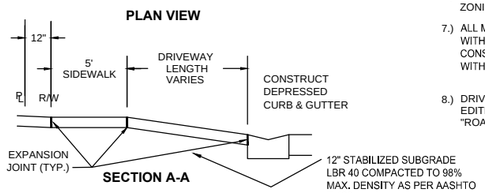


RESIDENTIAL ONLY

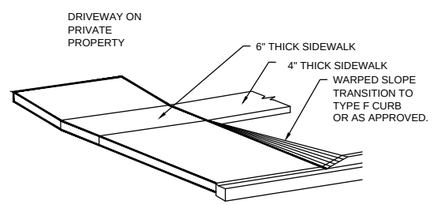


COMMERCIAL/ INDUSTRIAL/ MULTI-FAMILY

PLAN VIEW



SECTION A-A



6" CONCRETE RESIDENTIAL DRIVEWAY

NOTES:

1.) SIDEWALKS SHALL BE CONSTRUCTED OF 3000 PSI AT 28 DAYS CONCRETE (MAXIMUM 4" SLUMP) WITH FIBER REINFORCEMENT.

2.) ALL SIDEWALKS SHALL BE 5' WIDE AND CONSTRUCTED WITH A SLOPE OF 1/4-INCH PER FOOT TOWARD CURB AND GUTTER.

3.) CONTRACTION SAW-CUTS SHALL BE CONSTRUCTED EVERY 5' LENGTH OF SIDEWALK. EXPANSION JOINTS SHALL BE CONSTRUCTED AT 50' INTERVALS.

4.) 1/2-INCH THICK ASPHALTIC FELT OR "PRESSURE TREATED WOOD" SHALL BE PLACED AT EACH EXPANSION JOINT.

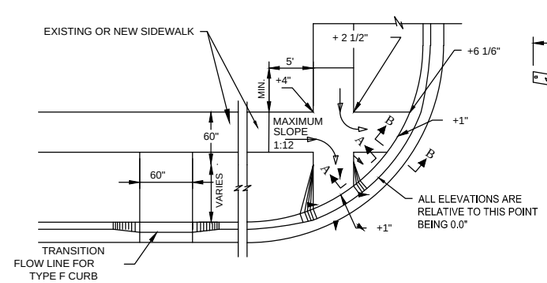
5.) EXISTING CURB AND GUTTER SHALL BE REMOVED ONLY AT EXISTING JOINTS.

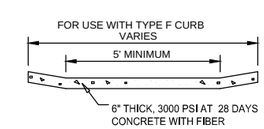
6.) DRIVEWAY WIDTH AND LOCATION SHALL COMPLY WITH ZONING CODES, SECTIONS 122-446, 62-64, 62-65.

7.) ALL MATERIALS & METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE FDOT, "STANDARDS FOR ROAD & BRIDGE CONSTRUCTION". IN ADDITION, CONCRETE SHALL BE 3000 PSI AT 28 DAYS WITH A MAXIMUM 4" SLUMP AND FIBER REINFORCEMENT.

8.) DRIVEWAY SLOPES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FDOT, "ROADWAY AND TRAFFIC DESIGN STANDARDS", INDEX 515.

5 - DRIVEWAY AND SIDEWALK DETAILS

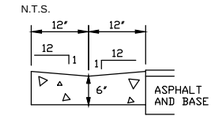




SIDEWALK DETAIL

(SECTION A-A)

N.T.S.



CURB DETAIL

(SECTION B-B)

NOTES:

1.) ALL CONCRETE RAMPS SHALL BE 4" THICK, INCREASING TO 6" THICK WITHIN 48" OF THE CURB

2.) ALL CONNECTIONS TO AN EXISTING SIDEWALK SHALL BE AT AN EXPANSION OR CONTRACTION JOINT

3.) WHERE PEDESTRIAN MOVEMENT CROSSES RAMP, THE MAXIMUM SLOPE SHALL BE 1:12

4.) ALL RAMPS AND WALKS WITHIN THREE FEET OF A FREQUENTLY USED DRIVE (GREATER THAN DUPLEX) SHALL HAVE A TACTILE SURFACE. RAMPS ARE DEFINED AS WALKS WITH A SLOPE GREATER THAN 1:12 AND/OR ADJACENT TO CURBS.

5.) TACTILE SURFACE WITHIN PUBLIC RIGHT-OF-WAY SHALL BE CAST-IN-PLACE COMPOSITE TACTILE (BRICK RED) (ADA SOLUTIONS OR APPROVED EQUALS), OR CAST-IN-PLACE ULTRA-ADA PADS (BRICK RED) (ULTRA TECH OR APPROVED EQUALS).

6.) TACTILE SURFACE WITHIN PRIVATE PROPERTY MAY BE SURFACE MOUNT (SCREW DOWN, BRICK RED).

7.) ALL MATERIALS & METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE FDOT, "STANDARDS FOR ROAD & BRIDGE CONSTRUCTION". IN ADDITION, CONCRETE SHALL BE 3000 PSI AT 28 DAYS WITH A MAXIMUM 4" SLUMP AND FIBER REINFORCEMENT.

3 - TYPICAL HANDICAPPED RAMP

REV#	DATE	DESCRIPTION	BY

NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND DATED:

WADE TRIM
8010 Woodland Center Boulevard
Suite 1200, Tampa, FL 33614
813.882.8373 813.882.8495 FAX: 813.888.7215
Certificate of Authorization No. 3082
www.wadetrim.com

Building relationships on a foundation of excellence

CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

PAVEMENT AND SIDEWALK DETAILS

Venice, FL City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

JOB NO. VEN2016.01M

SHEET D1.04

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

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PROJECT MANAGER:Holly Kremers P.E.
C:\PW_WORK\KAHLGRIM\D0437226\CDT-PLTS-VENICE PHS2-D1.01 TO D1.06-DWG - D1.04 - PLOTTED 4/14/2014 3:22 PM BY AHLGRIM, KURT
FIELD BOOK INFORMATION:-

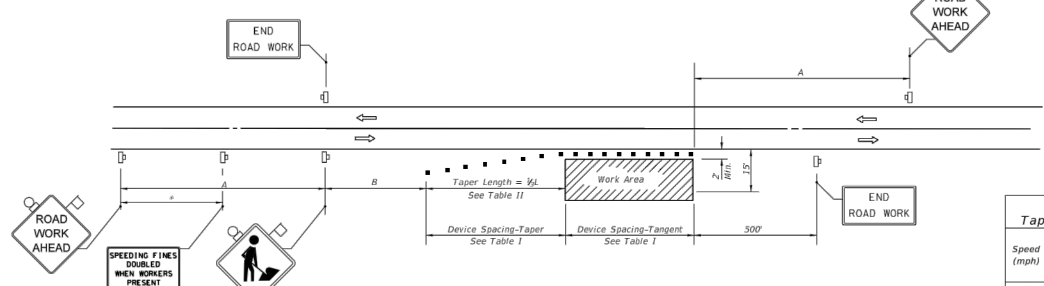


Table I Device Spacing				
Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

DISTANCE BETWEEN SIGNS		
Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350
50 mph or greater	500	500

*Midway between signs.

Table II Taper Length - Shoulder				
Speed (mph)	⅓L (ft)			Notes
	8' Shldr.	10' Shldr.	12' Shldr.	
25	28	35	42	$L=\frac{WS^2}{60}$
30	40	50	60	
35	55	68	82	
40	72	90	107	
45	120	150	180	L=WS
50	133	167	200	
55	147	183	220	
60	160	200	240	
65	173	217	260	
70	187	233	280	

8' minimum shoulder width

⅓L = Length of shoulder taper in feet

W = Width of total shoulder in feet (combined paved and unpaved width)

S = Posted speed limit (mph)

SYMBOLS

- Work Area
- Sign With 18" x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Lane Identification + Direction of Traffic

GENERAL NOTES

1. When four or more work vehicles enter the through traffic lanes in a one hour period or less (excluding establishing and terminating the work area), the advanced FLAGGER sign shall be substituted for the WORKERS sign. For location of flaggers and FLAGGER signs, see Index No. 603.
2. SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign only on the side where the shoulder work is being performed.
3. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
4. For general TCZ requirements and additional information, refer to Index No. 600.

DURATION NOTES

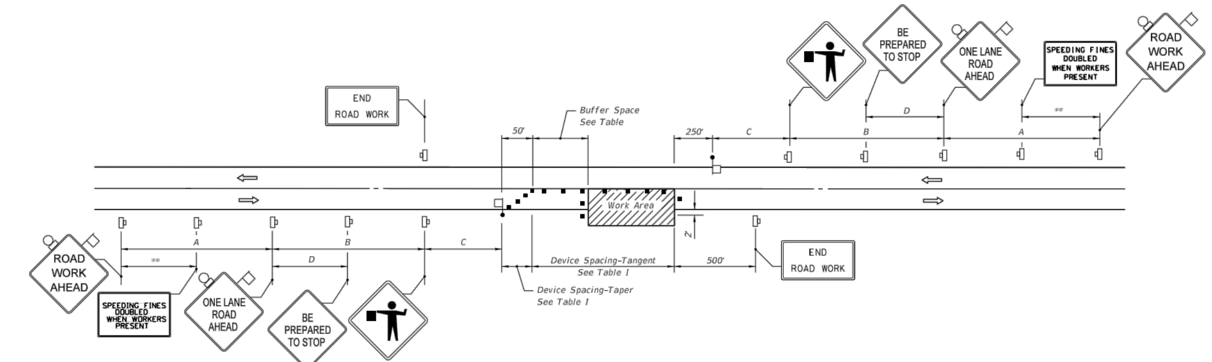
1. Signs and channelizing devices may be omitted if all of the following conditions are met:
   a. Work operations are 60 minutes or less.
   b. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

C:\d\projects\standards\roadway\00600-s\00602-01.dgn sm970re 6:30:26 PM 6/24/2013

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	TWO-LANE, TWO-WAY, WORK ON SHOULDER	INDEX NO.	SHEET NO.
07/01/12					602	1 of 1



DISTANCE BETWEEN SIGNS				
Speed (mph)	Spacing (ft.)			
	A	B	C	D
40 or less	200	200	200	100
45	350	350	350	175
50	500	500	500	250
55 or greater	2640	1640	1000	500

* The ROAD WORK 1 MILE sign may be used as an alternate to the ROAD WORK AHEAD sign.

** 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

*** BE PREPARED TO STOP sign may be omitted for speeds of 45 MPH or less.

TABLE I DEVICE SPACING				
Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25 to 45	20	50	20	50
50 to 70	20	50	20	100

BUFFER SPACE	
Speed (mph)	Dist. (ft.)
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

SYMBOLS

- Work Area
- Sign With 18" x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Flagger
- Automated Flagger Assistance Devices (AFAD), With Gate
- Lane Identification + Direction of Traffic

GENERAL NOTES

1. Work operations shall be confined to one traffic lane, leaving the opposite lane open to traffic.
2. Additional one-way control may be effected by the following means:
   1. Flag-carrying vehicle;
   2. Official vehicle;
   3. Pilot vehicles;
   4. Traffic signals.

   When flaggers are the sole means of one-way control, the flaggers shall be in sight of each other or in direct communication at all times.
3. The ONE-LANE ROAD signs are to be fully covered and the FLAGGER signs either removed or fully covered when no work is being performed and the highway is open to two-way traffic.
4. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
5. The two channelizing devices directly in front of the work area and the one channelizing device directly at the end of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
6. For general TCZ requirements and additional information, refer to Index No. 600.

DURATION NOTES

1. ROAD WORK AHEAD and the BE PREPARED TO STOP signs may be omitted if all of the following conditions are met:
   a. Work operations are 60 minutes or less.
   b. Speed limit is 45 mph or less.
   c. No sight obstructions to vehicles approaching the work area for a distance equal to the buffer space.
   d. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
   e. Volume and complexity of the roadway has been considered.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH THE AREA BETWEEN THE CENTERLINE AND A LINE 2' OUTSIDE THE EDGE OF TRAVEL WAY.

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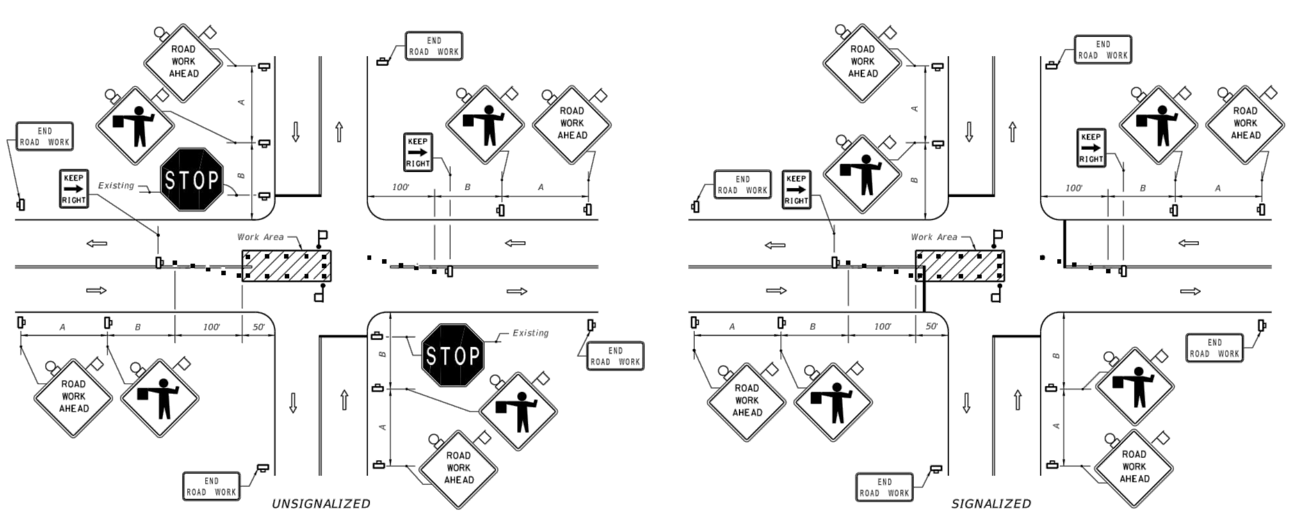
LAST REVISION	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	TWO-LANE, TWO-WAY, WORK WITHIN THE TRAVEL WAY	INDEX NO.	SHEET NO.
07/01/09					603	1 of 2



SYMBOLS

- Work Area
- Sign With 18" x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Flagger
- Stop Bar
- Lane Identification + Direction of Traffic

GENERAL NOTES

1. The FLAGGER legend sign may be substituted for the symbol sign.
2. When vehicles in a parking zone block the line of sight to TCZ signs, the signs shall be post mounted and located in accordance with Index No. 17302.
3. If the work space extends across a crosswalk, the crosswalk should be closed using the information in Index No. 660.
4. Flaggers shall be located where they can control more than one direction of traffic.

   Flaggers shall be in sight of each other or in direct communication at all times.
5. Maximum spacing between channelizing devices shall be not greater than 20'.
6. Temporary signal phasing modifications are to be approved by the District Traffic Operations Engineer prior to the beginning of work.
7. For general TCZ requirements and additional information, refer to Index No. 600.

DURATION NOTES

1. ROAD WORK AHEAD AND END ROAD WORK sign may be omitted if all of the following conditions are met:
   a. Work operations are 60 minutes or less.
   b. Speed is 45 mph or less.
   c. No sight obstructions to vehicles approaching the work area for a distance equal to A plus B.
   d. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
   e. Volume and complexity of the roadway has been considered.

DISTANCE BETWEEN SIGNS		
Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE PAVEMENT REQUIRING THE CLOSURE OF A PORTION OF ONE OR MORE TRAFFIC LANES IN AN INTERSECTION.

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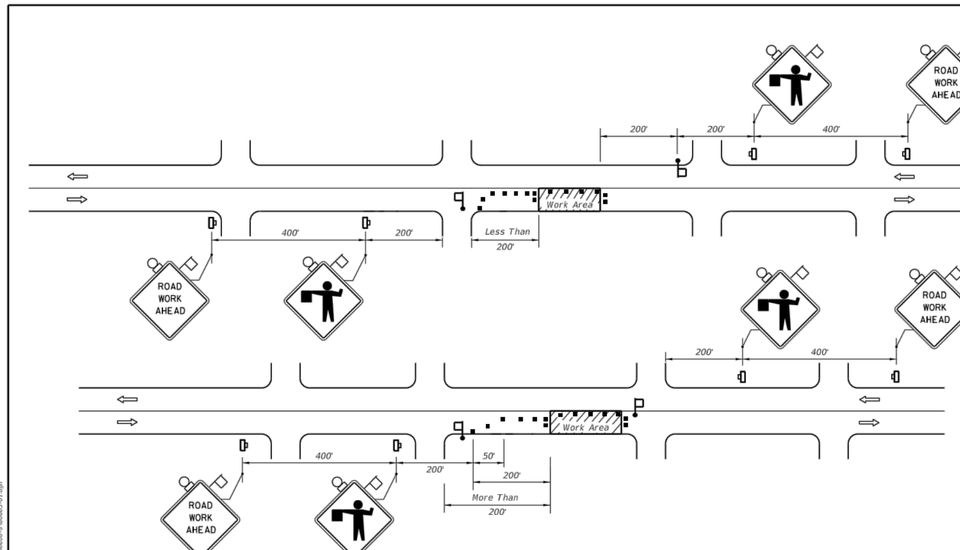
LAST REVISION	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	TWO-LANE, TWO-WAY, WORK IN INTERSECTION	INDEX NO.	SHEET NO.
07/01/09					604	1 of 1



CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE PAVEMENT REQUIRING THE CLOSURE OF ONE TRAFFIC LANE, FOR WORK AREAS LESS THAN 200' DOWNSTREAM FROM AN INTERSECTION FOR A PERIOD OF MORE THAN 60 MINUTES.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE PAVEMENT REQUIRING THE CLOSURE OF ONE TRAFFIC LANE, FOR WORK AREAS 200' OR MORE DOWNSTREAM FROM AN INTERSECTION FOR A PERIOD OF MORE THAN 60 MINUTES.

SYMBOLS

- Work Area
- Sign With 18" x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Flagger
- Lane Identification + Direction of Traffic

GENERAL NOTES

1. Work operations shall be confined to one travel lane, leaving the opposing travel lane open to traffic.
2. When vehicles in a parking zone block the line of sight to TCZ signs or when TCZ signs encroach on a normal pedestrian walkway, the signs shall be post mounted and located in accordance with Index No. 17302.
3. If work area is confined to an outside auxiliary lane, the work area shall be barricaded and the FLAGGER signs replaced by ROAD WORK AHEAD signs. Flaggers are not required.
4. Flaggers shall be in sight of each other or in direct communication at all times.
5. The FLAGGER legend sign may be substituted for the symbol sign.
6. The maximum spacing between devices shall be no greater than 25.'
7. For general TCZ requirements and additional information, refer to Index No. 600.
8. The two channelizing devices directly in front and directly at the end of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.

DURATION NOTES

1. ROAD WORK AHEAD sign may be omitted if all of the following conditions are met:
   a. Work operations are 60 minutes or less.
   b. Speed is 45 mph or less.
   c. No sight obstructions to vehicles approaching the work area for a distance of 600 feet.
   d. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
   e. Volume and complexity of the roadway has been considered.

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LAST REVISION	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	TWO-LANE, TWO-WAY, WORK NEAR INTERSECTION	INDEX NO.	SHEET NO.
07/01/09					605	1 of 1

NOTE:
CONTRACTOR SHALL REFERENCE THE LATEST EDITION OF THE FDOT ROADWAY DESIGN STANDARDS FOR COMPLETE DETAILS AND SPECIFICATIONS

REV#	DATE	DESCRIPTION	BY

NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND DATED:

WADE TRIM
8010 Woodland Center Boulevard
Suite 1200, Tampa, FL 33614
813.882.4373/888.499.9624 FAX: 813.888.7215
Certificate of Authorization No.: 3952
www.wadetrim.com
Building relationships on a foundation of excellence

CITY OF VENICE, FLORIDA PHASE 2 WATER MAIN REPLACEMENT PROGRAM

MAINTENANCE OF TRAFFIC PLAN

Venice, FL City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

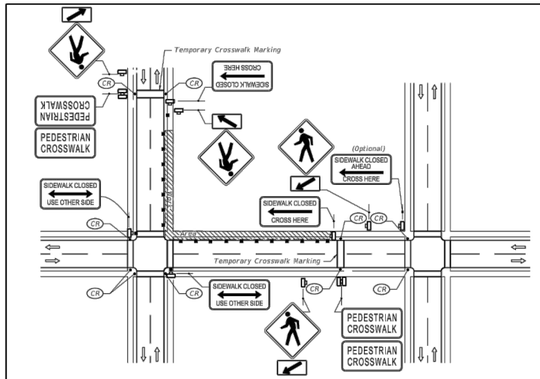
JOB NO. VEN2016.01M

SHEET D1.05

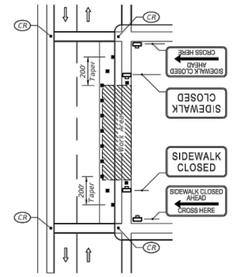
VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM – PHASE II

© Wade Trim Group, Inc.

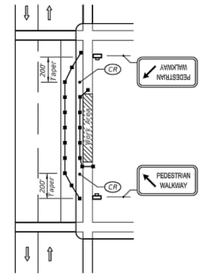
PROJECT MANAGER: Holly Kremers P.E. FIELD BOOK INFORMATION:-
C:\PW_WORK\KAHLGRIM\D0437226\CDT-PLTS-VENICE PHS2-D1.01 TO D1.06-.DWG – D1.05 – PLOTTED 4/14/2014 3:22 PM BY AHLGRIM, KURT



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALKS



MID-BLOCK SIDEWALK CLOSURE



MID-BLOCK SIDEWALK CLOSURE WITH TEMPORARY WALKWAY

GENERAL NOTES

1. Only the signs controlling pedestrian flows are shown. Other work zone signs will be needed to control traffic on the streets.
2. For spacing of traffic control devices and general TCZ requirements refer to Index No. 600. Maximum spacing between barricades, vertical panels, drums or tubular markers shall not be greater than 25'.
3. Street lighting should be considered.
4. For nighttime closures use Type A flashing warning lights on barricades supporting signs and closing sidewalks. Use Type C steady-burn lights on channelizing devices separating the work area from vehicular traffic.
5. Pedestrian traffic signal display controlling closed crosswalks shall be covered or deactivated.
6. Post Mounted Signs located near or adjacent to a sidewalk shall have a 7' minimum clearance from the bottom of sign to the sidewalk.
7. When construction activities involve sidewalks on both sides of the street, efforts should be made to stage the construction so that both sidewalks are not out of service at the same time.
8. In the event that sidewalks on both sides of the street are closed, pedestrians shall be guided around the construction zone.
9. Temporary walkways shall be a minimum of 4' wide with a maximum 0.02 cross slope and a maximum 0.05 running slope between ramps. Temporary walkways less than 5' in width shall provide for a 5' x 5' passing space at intervals not to exceed 200'. Temporary ramps shall meet the requirements for curb ramps specified in Index No. 304. Temporary walkway surfaces and ramps shall be stable, firm, slip resistant, and kept free of any obstructions and hazards such as holes, debris, mud, construction equipment, stored materials, etc.
10. Temporary ramps and temporary crosswalk markings shall be removed with reopening of the sidewalk, unless otherwise noted in the plans. All work and materials associated with constructing temporary curb ramps and temporary crosswalk markings, removal and disposal of temporary curb ramps and temporary crosswalk markings, and restoration to original condition shall be paid for as Maintenance of Traffic, Lump Sum.
11. A pedestrian longitudinal channelizing device shall be placed across the full width of the closed sidewalk.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT WORKERS OR THEIR ACTIVITIES ENCROACH ON THE SIDEWALK FOR A PERIOD OF MORE THAN 60 MINUTES.

SYMBOLS

- Work Area
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- CR Required Locations For Either Temporary Or Permanent Curb Ramps.
- Lane Identification + Direction of Traffic
- Pedestrian Longitudinal Channelizing Device

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALKS	INDEX NO.	SHEET NO.
07/01/13					660	1 of 1

NOTE:
CONTRACTOR SHALL REFERENCE THE LATEST EDITION OF THE FDOT ROADWAY DESIGN STANDARDS FOR COMPLETE DETAILS AND SPECIFICATIONS

REV#	DATE	DESCRIPTION	BY

NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND DATED:

WADETRIM
8010 Woodland Center Boulevard
Suite 1200, Tampa, FL 33614
813.882.2373/888.495.9924 FAX: 813.888.7215
Certificate of Authorization No. 3962
www.wadetrim.com

Building relationships on a foundation of excellence

CITY OF VENICE, FLORIDA
PHASE 2
WATER MAIN REPLACEMENT PROGRAM

PEDESTRIAN CONTROL
FOR CLOSURE OF SIDEWALKS

Venice, FL City on the Gulf

ISSUED FOR:	DATE:	BY:
60%	8/2/13	HK
90%	1/24/14	HK
BID	4/14/14	HK

JOB NO. VEN2016.01M

SHEET D1.06

VENICE, FLORIDA WATERMAIN REPLACEMENT PROGRAM - PHASE II

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PROJECT MANAGER:Holly Kremers P.E. FIELD BOOK INFORMATION:--
C:\PW_WORK\KAHLGRIM\D0437226\CDT-PLTS-VENICE PHS2-D1.01 TO D1.06--.DWG - D1.06 - PLOTTED 4/14/2014 3:22 PM BY AHLGRIM, KURT

CITY OF VENICE PROCUREMENT-
FINANCE DEPARTMENT

401 W. VENICE AVE. - ROOM # 204
VENICE, FL. 34285
(941) 486-2626
FAX (941) 486-2790

ADDENDUM NO. 1

Date: May 9, 2014

To: All Prospective Proposers

Re: ITB# 2986-14: Water Main Replacement, Phase 2

This addendum sets forth changes and/or information as referenced and is hereby made part of and should be attached to the subject Contract Documents. Receipt of this Addendum shall be acknowledged below and in the submitted proposal. It shall be the responsibility of each proposer, prior to submitting a proposal, to contact the City of Venice- Procurement- Finance Department to determine if addenda were issued and to make such addenda a part of their proposal.

The following is to clarify and provide additional information requested during the pre-bid meeting held May 8, 2014 at 2:00 P.M.

Summary:

Peter Boers, Procurement Manager, opened the meeting by reviewing the next important dates stating that the bids are due May 28th at 2:00 p.m. at City Hall room #204. 5% Bid Security is required and the awarded contractor will be required to provide a Performance and Payment Bond equaling 100% of the contact amount.

Mr. Boers advised the bidders to read through Section 1: *General Conditions & Instructions to Offerors*.

Mr. Boers reviewed Section 2: *Insurance Requirements*.

General Liability -$1,000,000 per occurance
Business Auto Liability - $1,000,000 combined single limit
Worker's Comp per State Statute
Builders' Risk Installation Coverage to be provided prior to Notice to Proceed

Ms. Holly Kremers, P.E., the City's consultant from Wade Trim, reviewed the scope of work and provided a brief overview of the project.

Mr. Boers advised that the stipulated damages for this project are $1532 per day, and time to completion is 270 days from NTP. Also, he reminded the bidders to review Section 4, paragraph 8, *Bid Award*. The City reserves the right to award, or not award the alternate.

Mr. Boers review the Bid Information page, stating that his contact information was listed there, that all questions must be submitted in writing (via e-mail is preferable), and that the cut-off for questions was May 21, 2014 at 1:00 PM.

Mr. Boers reviewed the required forms that must be returned with each firm's submittal. These required forms are listed in the Appendix of the bid document. Mr. Boers advised, even if a form does not pertain to said company - to still mark it with a "N/A" and return it with each submittal. Mr. Boers also advised that the *Required Forms List* could be used as a "check off" sheet for firms to use.

Mr. Boers opened the floor for bidder's questions. He advised the attendee's to follow up in writing if they do not see an answer to their question published in an addendum and to not assume a change is in effect unless published in an addendum.

Q. The last phase required a licensed plumber to do the hook-ups and plumbing permits from the building department, not seen in this phase, clarification.

A. See Specification Section 01030, Subsections 1.18.E. and 1.29.

Q. The prints call for PVC on the directional bore. Is it a contract requirement to bid PVC?

A. The required base bid is to be fusible PVC, the required bid alternate is HDPE.

Clarification: The "no bid" form published in the solicitation has been corrected and attached to this addendum.

Revision: The Permit Fee allowance on the Bid Submittal Form has been revised to $15,000 in accordance with Section 01030, 1.29. A revised Bid Submittal Form has been posted to DemandStar as a separate attachment. Bidders must submit the revised Bid Submittal Form with their bid.

Peter A. Boers
Procurement Department

Acknowledgment is requested even if you have elected not to respond to this bid. A designated management representative of your firm can sign the receipt for this addendum. Please acknowledge receipt of this addendum immediately by fax to (941) 486- 2790 or mail to the above noted address, if a fax is not possible.

Receipt Acknowledged:

Signature

Company

Date

NO BID RESPONSE

IMPORTANT: If you choose not to submit a bid for the attached "Invitation To Bid," please complete and return this form only on/before bid closing date. Failure to respond will result in your company being negatively registered as non-responsive. In the event five (5) "no responses" are posted, you will be automatically dropped from out mailing list for future solicitations for the described product/service.

Thank you for taking this opportunity to help us update and improve the solicitation process.

Bid Open/Close Date: **May 28, 2014 at 2:00 PM**

Bid Number: **2986-14**

Description: **Water Main Replacement, Phase 2**

Contact: Peter A. Boers, Procurement- Finance Department

Please check the appropriate response. We respectfully submit "No bid" for the following reason(s):

☐ 1. We are unable to meet the required delivery date

☐ 2. We cannot provide a product to meet the required specifications.

☐ 3. We no longer provide the requested product.

☐ 4. We do not represent the required brand name product.

☐ 5. The bid closing date does not allow adequate time to prepare a response.

☐ 6. The specifications are too restrictive.

☐ 7. We have chosen not to do business with the City

☐ 8. Other (feel free to provide our response on your company letterhead.)

Company Name _____ Vendor No._____

Authorized Signature_____

Print Name _____

Title _____

Date _____ Telephone No. _____

BID ITEMS: WATER MAIN REPLACEMENT PROGRAM - PHASE 2
REVISED

Item No.	Estimated Quantity	Unit	Description	Unit Bid Price (In Numbers)	Total Amount (In Numbers)
1	900	LF	6" Water Main Installed by HDD Method		
2	1,500	LF	8" Water Main Installed by HDD Method		
3	450	LF	4" Water Main Installed by Open Cut Method		
4	1,500	LF	6" Water Main Installed by Open Cut Method		
5	300	LF	8" Water Main Installed by Open Cut Method		
6	1	EA	4" Resilient Wedge Gate Valves with Box		
7	4	EA	6" Resilient Wedge Gate Valves with Box		
8	4	EA	8" Resilient Wedge Gate Valves with Box		
9	1	EA	8" Tapping Sleeves and Valves		
10	2	EA	12" Tapping Sleeve and Valves		
11	2	EA	Fire Hydrant Assemblies		
12	310	LF	2" Fire Service with Valves		
13	45	EA	Water Services with New Meter Box (Near Side Single)		
14	17	EA	Water Services with New Meter Box (Near Side Tandem)		
15	39	EA	Water Services with New Meter Box (Far Side Single)		
16	20	EA	Water Services with New Meter Box (Far Side Tandem)		
17	6	EA	Water Services without New Meter Box (Near Side Single)		
18	0	EA	Water Services without New Meter Box (Near Side Tandem)		
19	5	EA	Water Services without New Meter Box (Far Side Single)		
20	3	EA	Water Services without New Meter Box (Far Side Tandem)		
21	60	EA	New Dual Check Valve Assemblies		
22	121	EA	New Water Service Conenctions from Meter Assemblies to Existing Buildings		
23	1	LS	Abandonment of Existing Water Mains		
24	2,200	SY	Milling & Asphalt Restoration		
			BASE BID SUBTOTAL		
24	1	LS	Maintenance of Traffic and Traffic Control		
25	1	LS	General Conditions (Max 5% of Base Bid Subtotal)		
26	1	LS	Mobilization and Demobilization		
27	1	LS	Owner's Allowance	$ 100,000	$ 100,000
28	1	LS	Permit Fee Allowance	$ 15,000	$ 15,000
			BASE BID TOTAL		

TOTAL BID PRICE written in words:
Name and address of bidding firm:
Signature and title of authorized individual signing bid

Bid Alternative No. 1 (Required)

Bid Alternative No. 1 includes installation of HDPE pipe for the horizontal directional drill pipe sections in lieu of the base bid fusible PVC. HDPE pipe hall have an inside diameter equal to or greater than the specified PVC pipe size.

Bid Alternative No. 1 ADD/DEDUCT (circle one)

_____

CITY OF VENICE PROCUREMENT-
FINANCE DEPARTMENT

401 W. VENICE AVE. - ROOM # 204
VENICE, FL. 34285
(941) 486-2626
FAX (941) 486-2790

ADDENDUM NO. 2

Date: May 22, 2014

To: All Prospective Proposers

Re: ITB# 2986-14: Water Main Replacement, Phase 2

This addendum sets forth changes and/or information as referenced and is hereby made part of and should be attached to the subject Contract Documents. Receipt of this Addendum shall be acknowledged below and in the submitted proposal. It shall be the responsibility of each proposer, prior to submitting a proposal, to contact the City of Venice- Procurement- Finance Department to determine if addenda were issued and to make such addenda a part of their proposal.

Revisions:

The bid due date and time has been extended to June 4, 2014 at 2:00 PM.

Section 01025 Measurement and Payment

3.01.L. Title shall be revised to read, "Maintenance of Traffic and Traffic Control (Bid Item #24a)"

The following is to clarify and provide additional information requested prior to the cut-off for questions May 21, 2014 at 1:00 P.M.

Q. Phase 1 had a pay item for fittings. Will a pay item be added for fittings in Phase 2 or are they to be considered incidental to the pipe?

A. Refer to Section 01025 Measurement and Payment, Subsections 3.01.A and 3.01.B.

Q. Can the bid date be pushed back at least 1 week? More time is needed for the plumbing issues to be properly identified and priced.

A. The bid due date and time has been extended to June 4, 2014 at 2:00 PM.

Q. Pay item 3: 4" pvc wm – sheets 1.09 & 1.11 show fire line services to be relocated – please confirm DR14 C900 is required – also are 4" valve required for the services ? – current plans do not provide valves

A. The required pipe material for fire service lines 4" and larger shall be PVC C900 DR14. The valves are part of the above-grade fire service assemblies that will be relocated.

Q. Pay item 12: 2" pvc wm – plans show this is a fire line – please confirm cpvc blazemaster fire pipe is required – sch40, sch80, & cl200 pvc are not fire rated materials.

A. CPVC blazemaster fire pipe shall be required for fire services smaller than 4" diameter.

Q. Pay item 11; fire hydrants – plans show 3; bid form shows 2.

A. The revised bid form is attached.

Q. On sht. C1.11 at 512 Venice Ave plans call for 4" fire line and relocation of Master meter and DDC, there is no bid item for fire line larger than 2", can one be added for 4" lines?

A. The 4" fire lines are included in the 4" water main bid item.

Q. There are several irrigation meters called for in the plans, but no bid item, or technical spec for the meter or box, and are they supplied by the City?

A. The irrigation meters are treated the same as the potable water meters, and are included in the Water Service and Meter Box bid items.

Q. There are no sizes for any of the commercial and multi-family service lines, can these be added so we have the correct material quotes?

A. Line sizes shall match existing, and shall be field-verified in accordance with the General Notes on Sheet G1.01.

Q. The plans contain very little, to no information on existing drainage, sewers etc., there are no profiles given, or elevations for existing or potential conflicts, is the City going to deal with these as wait and see, and then issue change orders for unknown conditions?

A. Refer to the General Notes on Sheet G1.01. The Contractor is responsible for identifying locations of existing utilities and constructing the water main in a manner that provides proper clearance from existing utilities as detailed on Sheet D1.02.

Q. Pay Item #3: Plan sheets show fire services to be relocated. Please confirm if DR-14 C900 (for 4" sizing or larger) will be required and any applicable valves.

A. The required pipe material for fire service lines 4" and larger shall be PVC C900 DR14. The valves are part of the above-grade fire service assemblies that will be relocated.

Q. Pay Item #11: Fire Hydrants quantity on bid form is listed as 2. Plan quantities are 3.

A. The revised bid form has been posted as a separate attachment. Bidders **must** submit *ITB 2986-14 Bid Form Addendum 2 Revision* with their response.

Q. Pay Item #12: Plans note this as a fire line. Please confirm if CPVC Blazemaster Fire Pipe is required. (Sch. 40, Sch. 80 & Class 200 PVC are not fire rated materials).

A. CPVC blazemaster fire pipe shall be required for fire services smaller than 4" diameter.

Q. The proposed new water services to be constructed on an existing main are grouped with new services on new pipe. Please create a line item for new services on existing mains. The means/method are totally different for the installations.

A. The water service bid items will remain as-is.

Q. Can the City of Venice provide any profile views or as-built information regarding the existing water main in the landscape island along West Venice Ave.? This main will have numerous new water services connected to the existing main. Can you provide as-built depth (due to major landscaping/filling) and also the type of pipe material? (pvc, cast iron, asbestos, etc.).

A. The City does not have record information for this water main. The Contractor shall field verify the existing conditions in accordance with the General Notes on Sheet G1.01.

Q. Please advise regarding the ductile iron deflection table within the plans. Please revise with a deflection table with the applicable C-900 PVC to be utilized on this project.

A. Refer to Note 1 in the Utility Conflict Details on Sheet D1.02. This detail is not specific to ductile iron pipe.

Q. Please review the far side service lengths. Can the far side services be divided into (2) length line items. As scaled, some far side services scale approx. 30 lf plus or minus. Several other services have been scaled from 50 lf to 60 lf.

A The bid items will remain as-is.

Q. Will the City of Venice provide a electronic disc/file of project after award of the project for the purpose of construction stake-out and as-built information?

A. Yes, the City will provide electronic project files if requested.

Q. Can the City of Venice provide any additional as-built information regarding overlay of existing storm drainage, sanitary sewer services, etc. as this will allow contractors to produce a more accurate/competitive bid.

A. Refer to General Note 3 on Sheet G1.01.

Peter A. Boers
Procurement Department

Acknowledgment is requested even if you have elected not to respond to this bid. A designated management representative of your firm can sign the receipt for this addendum. Please acknowledge receipt of this addendum immediately by fax to (941) 486- 2790 or mail to the above noted address, if a fax is not possible.

Receipt Acknowledged:

_____
Signature

_____
Company

_____
Date

BID ITEMS: WATER MAIN REPLACEMENT PROGRAM - PHASE 2
REVISED PER ADDENDUM #2

Item No.	Estimated Quantity	Unit	Description	Unit Bid Price (In Numbers)	Total Amount (In Numbers)
1	900	LF	6" Water Main Installed by HDD Method		
2	1,500	LF	8" Water Main Installed by HDD Method		
3	450	LF	4" Water Main Installed by Open Cut Method		
4	1,500	LF	6" Water Main Installed by Open Cut Method		
5	300	LF	8" Water Main Installed by Open Cut Method		
6	1	EA	4" Resilient Wedge Gate Valves with Box		
7	4	EA	6" Resilient Wedge Gate Valves with Box		
8	4	EA	8" Resilient Wedge Gate Valves with Box		
9	1	EA	8" Tapping Sleeves and Valves		
10	2	EA	12" Tapping Sleeve and Valves		
11	3	EA	Fire Hydrant Assemblies		
12	310	LF	2" Fire Service with Valves		
13	45	EA	Water Services with New Meter Box (Near Side Single)		
14	17	EA	Water Services with New Meter Box (Near Side Tandem)		
15	39	EA	Water Services with New Meter Box (Far Side Single)		
16	20	EA	Water Services with New Meter Box (Far Side Tandem)		
17	6	EA	Water Services without New Meter Box (Near Side Single)		
18	0	EA	Water Services without New Meter Box (Near Side Tandem)		
19	5	EA	Water Services without New Meter Box (Far Side Single)		
20	3	EA	Water Services without New Meter Box (Far Side Tandem)		
21	60	EA	New Dual Check Valve Assemblies		
22	121	EA	New Water Service Conenctions from Meter Assemblies to Existing Buildings		
23	1	LS	Abandonment of Existing Water Mains		
24	2,200	SY	Milling & Asphalt Restoration		
			BASE BID SUBTOTAL		
24a	1	LS	Maintenance of Traffic and Traffic Control		
25	1	LS	General Conditions (Max 5% of Base Bid Subtotal)		
26	1	LS	Mobilization and Demobilization		
27	1	LS	Owner's Allowance	$ 100,000	$ 100,000
28	1	LS	Permit Fee Allowance	$ 15,000	$ 15,000
			BASE BID TOTAL		

TOTAL BID PRICE written in words:
Name and address of bidding firm:
Signature and title of authorized individual signing bid

Bid Alternative No. 1 (Required)

Bid Alternative No. 1 includes installation of HDPE pipe for the horizontal directional drill pipe sections in lieu of the base bid fusible PVC. HDPE pipe hall have an inside diameter equal to or greater than the specified PVC pipe size.

Bid Alternative No. 1 ADD / DEDUCT (circle one)

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