



**Ministry of Public Works**

**Department of Works and Engineering**

**Request for Quotations**

**For**

**Parsons Road Main Replacement**

**Request for Quotations No.: 50/816/21/ Parsons Road Mains Replacement**

**Issued: Friday December 10, 2021**

**Submission Deadline: Friday February 11, 2022 03:00:00 PM AST**

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# PART 1 – INVITATION AND SUBMISSION INSTRUCTIONS

## 1.1 Invitation to Respondents

This Request for Quotations (the “RFQ”) is an invitation by the Government of Bermuda (the “Government”) to prospective respondents to submit non-binding quotations for **Parsons Road Main Replacement**, as further described in Section A of the RFQ Particulars (Appendix D) (the “Deliverables”).

The Government of Bermuda, Ministry of Public Works, is soliciting quotations from experienced Contractors to supply and install a replacement water main in Parsons Road, Devonshire, from Frog Lane to Court Street. This work involves the supply and placement of a new 6 (six) inch HDPE pipeline to replace an existing 6 (six) inch PVC water main approximately 5150ft in length. The work will entail the use of the pipe bursting method of installation (4,550ft) in conjunction with open excavation (600ft) to install the new pipeline. The purpose of this work is to replace a section of pipeline that is currently failing with multiple breaks and frequently leaks.

## 1.2 RFQ Contact

For the purposes of this procurement process, the “RFQ Contact” will be:

Mr. J. Tarik Christopher at email [tjchristopher@gov.bm](mailto:tjchristopher@gov.bm)

Respondents and their representatives are not permitted to contact any employees, officers, agents, elected or appointed officials or other representatives of the Government, other than the RFQ Contact, concerning matters regarding this RFQ. Failure to adhere to this rule may result in the disqualification of the respondent and the rejection of the respondent’s quotation.

Prior to the Submission Deadline noted in the RFQ Timetable below, respondents that download this file and intend to respond to this RFQ are required to register their interest with the RFQ Contact by emailing their company name and contact information to

Mr. J. Tarik Christopher at email [tjchristopher@gov.bm](mailto:tjchristopher@gov.bm)

Amendment/addenda (if any) will be posted at <https://www.gov.bm/procurement-notices>. Respondents should visit the Government Portal on a regular basis during the procurement process.

## 1.3 Type of Contract for Deliverables

The selected respondent will be requested to enter into a contract for the provision of the Deliverables on the terms and conditions set out in the Form of Agreement (Appendix A) (the “Agreement”). It is the Government’s intention to enter into a contract with only one (1) legal entity. The term of the contract is to be for a period to be agreed with the Contractor with an option in favour of the Government to extend the contract terms and conditions acceptable to the Government and the selected respondent for an additional term of up to 90 days.

Joint submissions are acceptable however if a joint submission is made, the submission must clearly indicate which party will act as the prime contractor.

## 1.4 RFQ Timetable

### 1.4.1 Key Dates

Issue Date of RFQ	Friday December 10, 2021
Pre-Bid / Site Meeting	Friday January 21, 2022
Deadline for Questions	Friday January 28, 2022
Deadline for Issuing Addenda	Wednesday February 02, 2022
Submission Deadline	Friday February 11, 2022 03:00:00 PM
Rectification Period	5 business days
Anticipated Execution of Agreement	Tuesday March 01, 2022

All times listed are in Atlantic Standard Time (AST). The RFQ timetable is tentative only, and may be changed by the Government at any time. For greater clarity, business days means all days that the Government is open for business.

### 1.4.2 Site Visit / Pre-Bid Meeting

The Respondent's designated representative is invited to attend a pre-bid meeting and site visit. The purpose of the meeting will be to clarify issues and answer questions on any matter that may be raised at that stage.

The Respondent is requested, as far as possible, to submit any questions in writing to the RFQ Contact not later than three days before the meeting.

Non-attendance at the pre-bid meeting will not be a cause for disqualification of a respondent.

The Pre-bid meeting will take place at

**Date:** Friday, January 21, 2022

**Time:** 10:00 A.M. AST

**Place:** The Frog Lane, Parsons Road and Montpelier Road Roundabout, Devonshire

The Respondents or their official representative must register their presence with the RFQ Contact or their designate at the start of the meeting, stating the name of the company they represent, their email address, and phone number.

All Respondents or their official representative(s) are advised to attend the Pre-Bid Meeting and Site tour to examine the proposed work site to be fully acquainted with existing conditions and limitations.

The Government reserves the right to refuse any request for individual conducted site tours at any other time than that identified in this RFQ.

Minutes of the meeting, including copies of the questions raised and responses given, will be furnished expeditiously to Respondents. Any modification of the RFQ documents that may become necessary as a result of the site tour meeting will be posted as addenda on the Government portal.

## **1.5 Submission of Quotations**

### **1.5.1 Quotations to be Submitted at Prescribed Location**

Interested parties are invited to respond to this RFQ by submitting a response to the Ministry of Public Works, Head Office. Hand-delivered, regular mail or email submissions are acceptable.

#### **Electronic mail submission details:**

Electronic mail (E-Mail) submissions are preferred (due to Covid-19) and accepted at [tjchristopher@gov.bm](mailto:tjchristopher@gov.bm)

If documents are larger than ten (10) MB, please send them within a zip file. Please ensure to send a copy of your proposal in Adobe or equivalent PDF format.

In the subject line of the email, please state “RFQ (High Score) – Parsons Road Main Replacement”.

#### **Hard copy submission details:**

**IMPORTANT: ALL HARD COPY PROPOSALS MUST BE PLACED IN THE TENDER BOX IN THE RECEPTION AREA OF THE MINISTRY OF PUBLIC WORKS**

Ministry of Public Works, Head Office  
3rd Floor General Post Office Building,  
56 Church Street,  
Hamilton Bermuda

Responses should be labelled “RFQ (High Score) – Parsons Road Main Replacement” and include the information as requested in the description of requirements

### **1.5.2 Quotations to be Submitted on Time**

Quotations must be submitted at the location set out above on or before the Submission Deadline. Quotations submitted after the Submission Deadline will be rejected. Onus and responsibility rest solely with the respondent to deliver its quotation to the exact location (including floor, if applicable) indicated in the RFQ on or before the Submission Deadline. The Government does not accept any responsibility for submissions delivered to any other location by the Respondent or its delivery agents. Respondents are advised to make submissions well before the deadline. Respondents making submissions near the deadline do so at their own risk.

### **1.5.3 Quotations to be Submitted in Prescribed Format**

Respondents shall submit two original signed hard copies of their quotation or one (1) electronic copy (e-copy) in Microsoft Word or Adobe PDF format. If both a hard copy and e-copy of the quotation is submitted and there is a conflict or inconsistency between the hard copy and the e-copy of the quotation, the hard copy of the quotation will prevail.

The original and all copies of the quotation shall be typed or written in indelible ink and shall be signed by a person duly authorised to sign on behalf of the respondent. This authorisation shall consist of a written authorisation and shall be attached to the Submission Form included in (Appendix B). The name and position held by each person signing the authorisation must be typed

or printed below the signature. An Electronic Record of Signature will be accepted in the submission only in accordance with the requirements laid out in the *Electronic Transactions Act 1999*. Any interlineation, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the quotation.

Quotations should be submitted in a sealed package and prominently marked with the RFQ title and number (see RFQ cover) and will not be opened until Friday February 11, 2022 03:00:00 PM. The full legal name and return address of the respondent should be marked on the package as well.

#### **1.5.4 Amendment of Quotations**

Respondents may amend their quotations prior to the Submission Deadline by submitting the amendment in a sealed package prominently marked with the RFQ title and number and the full legal name and return address of the respondent to the location set out above. Any amendment should clearly indicate which part of the quotation the amendment is intended to amend or replace.

#### **1.5.5 Withdrawal of Quotations**

At any time throughout the RFQ process until the execution of a written agreement for provision of the Deliverables, a respondent may withdraw a submitted quotation. To withdraw a quotation, a notice of withdrawal must be sent to the RFQ Contact and must be signed by an authorized representative of the respondent. The Government is under no obligation to return withdrawn quotations.

[End of Part 1]

## **PART 2 – EVALUATION AND AWARD**

### **2.1 Stages of Evaluation**

The Government will conduct the evaluation of quotations in the following stages:

### **2.2 Stage I – Mandatory Submission Requirements**

Stage I will consist of a review to determine which quotations comply with all of the mandatory submission requirements. If a quotation fails to satisfy all of the mandatory submission requirements, the Government will issue the respondent a rectification notice identifying the deficiencies and providing the respondent an opportunity to rectify the deficiencies. If the respondent fails to satisfy the mandatory submission requirements within the Rectification Period, its quotation will be rejected. The Rectification Period will begin to run from the date and time that the Government issues a rectification notice to the respondent. The mandatory submission requirements are set out in Section C of the RFQ Particulars (Appendix D).

### **2.3 Stage II – Evaluation**

Stage II will consist of the following two sub-stages:

#### **2.3.1 Mandatory Technical Requirements**

The Government will review the quotations to determine whether the mandatory technical requirements as set out in Section D of the RFQ Particulars (Appendix D) have been met. Questions or queries on the part of the Government as to whether a quotation has met the mandatory technical requirements will be subject to the verification and clarification process set out in Part 3.

#### **2.3.2 Rated Criteria**

The Government will evaluate each qualified quotation on the basis of the rated criteria as set out in Section F of the RFQ Particulars (Appendix D).

### **2.4 Stage III – Pricing**

Stage III will consist of a scoring of the submitted pricing in each qualified quotation in accordance with the price evaluation method set out in pricing (Appendix C). The evaluation of the price will be undertaken after the evaluation of mandatory requirements and rated criteria has been completed.

### **2.5 Selection of Top-Ranked Respondent**

After the completion of Stage III, all scores from Stage II and Stage III will be added together and respondents will be ranked based on their total scores. Subject to the process rules contained in the Terms and Conditions of the RFQ Process (Part 3), the top-ranked respondent will be invited to enter into the Agreement in accordance with Part 3. In the event of a tie, the selected respondent will be the respondent selected by way of the lowest price. The selected respondent will be notified in writing and will be expected to satisfy any applicable conditions of this RFQ, including the pre-conditions of award listed in Section E of the RFQ Particulars (Appendix D), and enter into the Agreement within the timeframe specified in the selection notice. Failure to do so

may result in the disqualification of the respondent and the selection of another respondent or the cancellation of the RFQ.

[End of Part 2]



## **PART 3 – TERMS AND CONDITIONS OF THE RFQ PROCESS**

### **3.1 General Information and Instructions**

#### **3.1.1 Respondents to Follow Instructions**

Respondents should structure their quotations in accordance with the instructions in this RFQ. Where information is requested in this RFQ, any response made in a quotation should reference the applicable section numbers of this RFQ.

#### **3.1.2 Quotations in English**

All quotations must be written in the English language only.

#### **3.1.3 No Incorporation by Reference**

The entire content of the respondent's quotation should be submitted in a fixed form, and the content of websites or other external documents referred to in the respondent's quotation but not attached will not be considered to form part of its quotation.

#### **3.1.4 References and Past Performance**

In the evaluation process, the Government may include information provided by the respondent's referees and may also consider the respondent's past performance or conduct on previous contracts with the Government or other institutions.

#### **3.1.5 Information in RFQ Only an Estimate**

The Government and its advisers make no representation, warranty or guarantee as to the accuracy of the information and empirical data contained in this RFQ or issued by way of addenda. Any quantities shown or data contained in this RFQ or provided by way of addenda are estimates only, and are for the sole purpose of indicating to respondents the general scale and scope of the Deliverables. It is the respondent's responsibility to obtain all the information necessary to prepare a quotation in response to this RFQ.

#### **3.1.6 Respondents to Bear Their Own Costs**

The respondent will bear all costs associated with or incurred in the preparation and presentation of its quotation, including, if applicable, costs incurred for interviews, travel or demonstrations.

#### **3.1.7 Quotation to be Retained by the Government**

The Government will not return the quotation or any accompanying documentation submitted by a respondent.

#### **3.1.8 No Guarantee of Volume of Work or Exclusivity of Contract**

The Government makes no guarantee of the value or volume of work to be assigned to the successful respondent. The contract with the selected respondent will not be an exclusive contract for the provision of the described Deliverables. The Government may contract with others for

goods and services the same as or similar to the Deliverables or may obtain such goods and services internally.

### **3.1.9 Equivalency**

When proprietary names, brands, catalogues or reference numbers are specified in the Deliverables, they are intended to set a minimum standard, and preference for any particular material or equipment is not intended. The respondent may offer material or equipment of similar characteristics, type, quality, appearance, finish, method of construction and performance and if doing so must disclose any difference in the characteristics, type, quality, appearance, finish, method of construction or performance of the material or equipment.

## **3.2 Communication after Issuance of RFQ**

### **3.2.1 Respondents to Review RFQ**

Respondents shall promptly examine all of the documents comprising this RFQ, and

- (a) shall report any errors, omissions or ambiguities; and
- (b) may direct questions or seek additional information

in writing by email to the RFQ Contact on or before the Deadline for Questions. All questions or comments submitted by respondents by email to the RFQ Contact shall be deemed to be received once the email has entered into the RFQ Contact's email inbox. No such communications are to be directed to anyone other than the RFQ Contact. The Government is under no obligation to provide additional information, and the Government shall not be responsible for any information provided by or obtained from any source other than the RFQ Contact. It is the responsibility of the respondent to seek clarification from the RFQ Contact on any matter it considers to be unclear. The Government shall not be responsible for any misunderstanding on the part of the respondent concerning this RFQ or its process.

### **3.2.2 All New Information to Respondents by Way of Addenda**

This RFQ may be amended only by addendum in accordance with this section. If the Government, for any reason, determines that it is necessary to provide additional information relating to this RFQ, such information will be communicated to all respondents by addendum. All Addenda will be published online at <https://www.gov.bm/procurement-notices>. Each addendum forms an integral part of this RFQ and may contain important information, including significant changes to this RFQ. Respondents are responsible for obtaining all addenda issued by the Government. In the Submission Form (Appendix B), respondents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

### **3.2.3 Post-Deadline Addenda and Extension of Submission Deadline**

If the Government determines that it is necessary to issue an addendum after the Deadline for Issuing Addenda, the Government may extend the Submission Deadline.

### **3.2.4 Verify, Clarify and Supplement**

When evaluating quotations, the Government may request further information from the respondent or third parties in order to verify, clarify or supplement the information provided in the respondent's quotation. This information may include, without limitation, clarification with respect to whether a quotation meets the mandatory technical requirements set out in Section C of the RFQ Particulars (Appendix D). The response received by the Government shall, if accepted by the Government, form an integral part of the respondent's quotation. The Government may revisit, re-evaluate and rescore the respondent's response or ranking on the basis of any such information.

## **3.3 Notification and Debriefing**

### **3.3.1 Notification to Other Respondents**

Once the Agreement is executed by the Government and a respondent, the other respondents may be notified directly in writing of the outcome of the procurement process.

### **3.3.2 Debriefing**

Respondents may request a debriefing after receipt of a notification of the outcome of the procurement process. All requests must be in writing to the RFQ Contact and must be made within sixty (60) days of such notification.

### **3.3.3 Procurement Protest Procedure**

If a respondent wishes to challenge the RFQ process, it should provide written notice to the RFQ Contact in accordance with the Government's Complaints and Disputes procedures. The notice must provide detailed explanation of the respondent's concern with the procurement process or its outcome.

## **3.4 Conflict of Interest and Prohibited Conduct**

### **3.4.1 Conflict of Interest**

For the purposes of this RFQ, the term "Conflict of Interest" includes, but is not limited to, any situation or circumstance where:

- (a) in relation to the RFQ process, the respondent has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to (i) having, or having access to, confidential information of the Government in the preparation of its quotation that is not available to other respondents, (ii) communicating with any person with a view to influencing preferred treatment in the RFQ process (including but not limited to the lobbying of decision makers involved in the RFQ process), or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the open and competitive RFQ process or render that process non-competitive or unfair; or
- (b) in relation to the performance of its contractual obligations under a contract for the Deliverables, the respondent's other commitments, relationships or financial interests (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement, or (ii) could, or could be seen to,

compromise, impair or be incompatible with the effective performance of its contractual obligations.

### **3.4.2 Disqualification for Conflict of Interest**

The Government may disqualify a respondent for any conduct, situation or circumstances, determined by the Government, in its sole and absolute discretion, to constitute a Conflict of Interest as defined above.

### **3.4.3 Disqualification for Prohibited Conduct**

The Government may disqualify a respondent, rescind notice of selection or terminate a contract subsequently entered into if the Government determines that the respondent has engaged in any conduct prohibited by this RFQ.

### **3.4.4 Prohibited Respondent Communications**

Respondents must not engage in any communications that could constitute a Conflict of Interest and should take note of the Conflict of Interest declaration set out in the Submission Form (Appendix B).

### **3.4.5 Respondent Not to Communicate with Media**

Respondents must not at any time directly or indirectly communicate with the media in relation to this RFQ or any agreement entered into pursuant to this RFQ without first obtaining the written permission of the RFQ Contact.

### **3.4.6 No Lobbying**

Respondents shall not in relation to this RFQ or the evaluation and selection process, engage directly or indirectly in any form of political action or other activity whatsoever to influence or attempt to influence Parliament, the Government, or to influence or attempt to influence any legislative or regulatory action, in the selection or evaluation of any respondent.

### **3.4.7 Illegal or Unethical Conduct**

The respondent represents, warrants, and covenants that, in connection with activities performed under this Agreement or on behalf of the Government, the respondent has not and will not offer, promise, authorise, pay, or act in furtherance of an offer, promise, authorization, or payment of anything of value, directly or indirectly, to a Government Official (as hereinafter defined), political party or party official, candidate for political office, or official of a public international organisation, in order to obtain or retain business, to secure an improper advantage or benefit of any kind or nature to person(s) related, associated or linked to the Government Official, or to secure or influence discretionary action, inaction or a decision of a Government Official(s). For purposes of this quotation, the term "Government Official" shall mean and include any official, public officer or employee of the Government, as well as an official or employee in the judicial, legislative, or military, anyone acting in an official capacity for the Government, or any immediate family member of such persons. The respondent represents, warrants, and covenants that it has complied and will comply with *The Bribery Act 2016* and all other applicable laws of any relevant jurisdiction in connection with the performance of this Agreement. Without limiting the generality of the foregoing, the respondent represents, warrants, and covenants that it has not and will not take

any action that would cause the Government or anyone acting on their behalf to violate or be subjected to penalties under *The Bribery Act 2016*, or the applicable anti-corruption laws of other countries.

The respondent acknowledges and agrees that in the event that the Government believes, in good faith, that the respondent has breached this section, the Government shall have the right to immediately withdraw and terminate this opportunity and terminate any or all other agreements with the respondent.

#### **3.4.8 Past Performance or Past Conduct**

The Government may prohibit a supplier from participating in a procurement process based on past performance or based on inappropriate conduct in a prior procurement process, including but not limited to the following:

- (a) illegal or unethical conduct as described above;
- (b) the refusal of the supplier to honour its submitted pricing or other commitments; or
- (c) any conduct, situation or circumstance determined by the Government, in its sole and absolute discretion, to have constituted an undisclosed Conflict of Interest.

#### **3.4.9 No Collusion**

Respondents must not engage in any collusion and must sign the certificate as set out in the Certificate of Confirmation of Non-Collusion (Appendix E).

### **3.5 Confidential Information**

#### **3.5.1 Confidential Information of the Government**

All information provided by or obtained from the Government in any form in connection with this RFQ either before or after the issuance of this RFQ

- (a) is the sole property of the Government and must be treated as confidential;
- (b) is not to be used for any purpose other than replying to this RFQ and the performance of any subsequent contract for the Deliverables;
- (c) must not be disclosed without prior written authorization from the Government; and
- (d) must be returned by the respondent to the Government immediately upon the request of the Government.

#### **3.5.2 Confidential Information of Respondent**

- (a) A respondent should identify any information in its quotation or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the Government. The confidentiality of such information will be maintained by the Government, except as otherwise required by the Public Access to Information Act 2010 or by order of a court or tribunal.

- (b) Respondents are advised that their quotations will, as necessary, be disclosed, on a confidential basis, to advisers retained by the Government to advise or assist with the RFQ process, including the evaluation of quotations. If a respondent has any questions about the collection and use of personal information pursuant to this RFQ, questions are to be submitted to the RFQ Contact.
- (c) The respondent is responsible to ensure that they comply with the *Personal Information Protection Act 2016* (“PIPA”), related to any information in the respondent's custody, care or control.

### **3.6 Procurement Process Non-Binding**

#### **3.6.1 No Process Contract**

This RFQ is a request for quotes only and participation in this RFQ is not intended to create legal obligations between the Government and any of the respondents or their representatives. For greater certainty and without limitation:

- (a) Participation in this RFQ will not give rise to any preliminary contract or collateral contract;
- (b) No respondent shall have any claim for any compensation of any kind whatsoever (whether in a contract, tort, law, equity or otherwise), as a result of participating in this RFQ, and by submitting a quotation each respondent shall be deemed to have agreed that it has no claim against the Government;
- (c) The decision to award or not to award a contract to any respondent is at the discretion of the Government. The Government shall have no liability to any respondent with respect to the awarding of contract or the failure to award a contract to any respondent. Respondents acknowledge that the respondent that submits the quotation with the lowest price might not be awarded a contract.

#### **3.6.2 No Contract until Execution of Written Agreement**

This RFQ process is intended to solicit non-binding quotations for consideration by the Government and may result in an invitation by the Government to a respondent to enter into the Agreement. No legal relationship or obligation regarding the procurement of any good or service will be created between the respondent and the Government by this RFQ process until the execution of a written agreement for the acquisition of such goods and/or services.

#### **3.6.3 Non-Binding Price Estimates**

While the pricing information provided in quotations will be non-binding prior to the execution of a written agreement, such information will be assessed during the evaluation of the quotations and the ranking of the respondents. Any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact any such evaluation or ranking or the decision of the Government to enter into an agreement for the Deliverables.

#### **3.6.4 Cancellation**

The Government may cancel or amend the RFQ process without liability at any time. Cancellation may occur, for example, if:

- where no qualitatively or financially worthwhile offer has been received or there has been no valid response at all;

- the economic or technical parameters of the project have changed fundamentally;
- exceptional circumstances or force majeure render normal implementation of the project impossible;
- all offers exceed the financial resources available, or are otherwise inconsistent with the principles of economy, efficiency and effectiveness; or
- where irregularities require cancellation in the interest of fairness.

The publication of a procurement notice does not commit the Government to implement the programme or project announced.

### **3.7 Governing Law and Interpretation**

These Terms and Conditions of the RFQ Process (Part 3):

- (a) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision);
- (b) are non-exhaustive and must not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations; and
- (c) are to be governed by and construed in accordance with the laws of Bermuda applicable therein.

[End of Part 3]

## **APPENDIX A – FORM OF AGREEMENT**

The terms and conditions found in the Form of Agreement (Appendix A) are intended to provide advance notice of some of the key contractual provisions of the Agreement, including indemnities, limitation of liabilities, service requirements, etc. that form the basis for commencing Agreement between the Government and the selected respondent.

See Annex A - Form of Agreement



## APPENDIX B – SUBMISSION FORM

### 1. Respondent Information

<p>Please fill out the following form, naming one person to be the respondent's contact for the RFQ process and for any clarifications or communication that might be necessary.</p> <p>If the company is incorporated and registered, then a Certificate of Incorporation and a Certificate of Incumbency is required and must be submitted with the Submission Form.</p> <p><b><u>Declaration of Interest:</u></b> The respondent shall provide details of its ownership and/or managerial structure upon request from the Government. The respondent shall also provide a statement of whether or not it has any relevant and material interest relevant to the provision of Goods or Services. Such statement shall be provided at least annually or if there is any change in the interest of the respondent.</p>	
Full Legal Name of Respondent or Personal/Given Name:	
Representative Name (Person with Signing Authority) / Title:	
Any Other Relevant Name under which Respondent Carries on Business:	
Street Address:	
City, Province/State, Parish:	
Country	
Postal Code:	
Phone Number with Area Code:	
Respondent's Social Insurance Number issued by the Government of Bermuda:	
Respondent's Payroll Tax Number issued by the Government of Bermuda:	
Respondent's Registration Number issued by the Bermuda Registrar of Companies (if incorporated):	
Company Website (if any):	
Respondent Contact Name and Title:	
Respondent Contact Phone:	
Respondent Contact Fax:	
Respondent Contact Email:	

## **2. Acknowledgment of Non-Binding Procurement Process**

The respondent acknowledges that the RFQ process will be governed by the terms and conditions of the RFQ, and that, among other things, such terms and conditions confirm that this procurement process does not constitute a formal, legally binding bidding process (and for greater certainty, does not give rise to a Process Contract), and that no legal relationship or obligation regarding the procurement of any good or service will be created between the Government and the respondent unless and until the Government and the respondent execute a written agreement for the Deliverables.

## **3. Ability to Provide Deliverables**

The respondent has carefully examined the RFQ documents and has a clear and comprehensive knowledge of the Deliverables required. The respondent represents and warrants its ability to provide the Deliverables in accordance with the requirements of the RFQ for the rates set out in its quotation.

## **4. Non-Binding Pricing**

The respondent has submitted its pricing in accordance with the instructions in the RFQ and in Pricing (Appendix C) in particular. The respondent confirms that the pricing information provided is accurate. The respondent acknowledges that any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact the acceptance of its quotation or its eligibility for future work.

## **5. Addenda**

The respondent is requested to confirm that it has received all addenda by listing the addenda numbers, \_\_\_\_\_ to \_\_\_\_\_ (if applicable) issued by the Government, or if no addenda were issued by the Government write the word "None". The onus is on respondents to make any necessary amendments to their quotations based on the addenda. The respondent confirms it has read, received and complied with these addendums. Respondents who fail to complete this section will be deemed to have received all posted addenda.

## **6. No Prohibited Conduct**

The respondent declares that it has not engaged in any conduct prohibited by this RFQ.

## **7. Conflict of Interest**

Respondents must declare all potential Conflicts of Interest, as defined in section 3.4.1 of the RFQ. This includes disclosing the names and all pertinent details of all individuals (employees, advisers, or individuals acting in any other capacity) who (a) participated in the preparation of the quotation; **AND** (b) were employees of the Government within twelve (12) months prior to the Submission Deadline.

If the box below is left blank, the respondent will be deemed to declare that (a) there was no Conflict of Interest in preparing its quotation; and (b) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

Otherwise, if the statement below applies, check the box.

- The respondent declares that there is an actual or potential Conflict of Interest relating to the preparation of its quotation, and/or the respondent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

If the respondent declares an actual or potential Conflict of Interest by marking the box above, the respondent must set out below details of the actual or potential Conflict of Interest:

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### 8. Disclosure of Information

Any information collected or used by or on behalf of the Government under this solicitation document is subject to the Public Access to Information Act 2010 ("Act"). The information belongs to a class of information that might be made available to the general public unless it is contained in a record that is exempt from disclosure under the Act. Any questions regarding the collection, use, or disclosure of the information should be directed to the public authority that issued this solicitation document.

---

Signature of Witness

---

Signature of Respondent Representative

---

Name of Witness

---

Name of Respondent Representative

---

Title of Respondent Representative

---

Date

I have the authority to bind the respondent.

**SAMPLE CERTIFICATE OF INCUMBENCY**

The undersigned being the Secretary of the company as named below (the "Company"), a company duly organised and existing under the laws of the Islands of Bermuda and having its registered office as set out below **DO HEREBY CERTIFY** that the following is a true and correct listing of the Directors and Officers of the Company in full force and effect as of the date hereof.

DIRECTORS

List

ALTERNATE DIRECTORS

List

OFFICERS

List

IN WITNESS WHEREOF I have hereunto set my signature in accordance with the Bye-Laws of the Company.

Company Name: .....

Date: .....

\_\_\_\_\_

Secretary/Director

## APPENDIX C – PRICING

### 1. Instructions on How to Provide Pricing

- (a) Respondents should provide the information requested under section 3 below (“Required Pricing Information”) by reproducing and completing the table below in their quotations, or, if there is no table below, by completing the attached form and including it in their quotations.
- (b) Pricing must be provided in Bermuda funds, inclusive of all applicable duties and taxes, which should be itemised separately.
- (c) Pricing quoted by the respondent must be all-inclusive and must include all labour and material costs, all travel and carriage costs, all insurance costs, all costs of delivery, all costs of installation and set-up, including any pre-delivery inspection charges, and all other overhead, including any fees or other charges required by law.

### 2. Evaluation of Pricing

Pricing is worth 30 points of the total score.

Each response must include a completed Pricing Form.  
See Annex B - Pricing Form

The maximum number of points assigned to the financial proposal is allocated to the lowest price proposal. All other price proposals receive points in inverse proportion. The point's allotment will be calculated based in accordance with the following formula.

**Maximum number of Points X (Lowest Price Proposal/ Price of the proposal evaluated)=  
Scored Points** e.g. 30 points x (150/200) = 22.5 points

In addition to any rights to verify, clarify and supplement,

- (a) The Government will examine the responses to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, and whether the bids are generally in order.
- (b) Arithmetical errors will be rectified on the following basis:
  - (i) Where there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If the respondent does not accept the correction of errors, its Bid will be rejected. If there is a discrepancy between words and figures the amount in words will prevail;
  - (ii) Where there is a discrepancy between the amounts in figures and in words, the amounts in words will govern; and
  - (iii) Where there is a discrepancy between the individual lump sums and the total amounts derived for the sum of the individual lump sum, the individual lump sum as quoted will govern, and the total amount will be corrected.

### **3. Required Pricing Information**

See Annex B – Pricing Form

## APPENDIX D – RFQ PARTICULARS

### A. THE DELIVERABLES

#### SCOPE OF WORK COVERED BY CONTRACT DOCUMENTS

The Works involve the supply and installation of a replacement 6-inch diameter HDPE water main with tracer wire in Parsons Road, Devonshire, from Frog Lane to Court Street. This will be undertaken in sections of either open trench works or by inserting a new pipe inside an existing 6-inch PVC water main by pipe bursting installation method working from feed and receiving access pits. The limits of the works are detailed on the accompanying drawings PR01, PR02, PR03 and PR04. The pipes will be installed as required by the Construction Specifications (See Annex F – Reference Documents).

#### The Works consist of:

A. The excavation of 11 access pits along a route of 4,550 ft of an existing PVC 6-inch pipeline to insert a new 6-inch HDPE inside the existing PVC pipe using pipe bursting methods. Prior to the commencement of pipe bursting operations a CCTV camera must be used to provide a video survey of the existing pipe internal condition together with identifying any possible obstructions or water service connections to the existing pipeline. The work will include reconnecting the new pipe to the existing pipe at each pit and backfill and reinstatement of the pit and road surface. **To minimise existing customer supply disruption, each section to be pipe burst shall be completed as a discrete operation with the new pipe reconnected to the existing pipe at the conclusion of each discrete pipe burst. It is envisaged that a single pipe burst will be carried out each week to enable the system to be refilled and allow customers to take water for a minimum of three days each week.**

B. The excavation of an open trench to install a 6- inch pipe replacement for an existing 6inch diameter main from the Arboretum across Montpelier Road to Parsons Road for a nominal length of 450ft, including backfill and reinstatement of the trench and road surface.

C. The excavation of an open trench along as required in Parsons Road to install a 6-inch pipe replacement for an existing 6 inch diameter main over a nominal length of 150ft, including backfill and reinstatement of the trench and road surface.

D. Tee offs to connect to the existing PVC pipes branches to the new pipeline will be required at the following junctions with Parsons Road:

1. Frog Lane
2. Tribe Rd#3
3. Glebe Road
4. St Augustine's Road
5. Fenton's Drive

## 6. Court Street

E. Along the route 20No. Service connections from the new 6" diameter main to the existing ¾" water meter are required. This includes the supply of ¾" HDPE DR11 pipe and fittings, all trenching and reinstatement. All excavation to locate service connection point to new 6" pipe to be included.

The contractor will be responsible for the transport of all materials to and from storage on-site or off-site.

Respondents shall make their own assessment of existing facilities, conditions and difficulties which will attend the execution of the Works called for by the proposed works contract; including local conditions, constraints due to working in an occupied area with restricted hours, labour conditions, the uncertainty of the weather, difficulties with access, and all other reasonable contingencies. Respondents shall satisfy themselves by personal examination of the site of the proposed Works and by such other means as they choose as to actual conditions and requirements and as to the quantities required. It is the Respondents Responsibility to contact all utility companies to determine the location of existing services prior to any excavation works.

### **Respondent's Schedule**

Respondents are advised that in order to comply with the tendering procedure for this Contract, Respondents shall include with their completed responses a statement of the length of time required to complete the Works. The Ministry may request a complete detailed schedule for completion of the works after the submission of offers in order to fully evaluate the responses. Failure to provide a schedule within ten (10) working days may result in the response being rejected.

The schedule shall be in the form of a bar chart in electronic format (e.g. Microsoft Project) and will be fully detailed to include all construction activities from commencement to completion of the project. All critical path construction activities will be identified. The key milestones in the construction process will also be identified.

Respondents are to specify their most cost-effective completion date.

The Respondent shall make every effort to complete the Works by the offered completion date and shall adjust his schedule of activities accordingly.

The Respondent shall pay all extra costs to complete the work on schedule, which may be incurred by way of: increasing the labour force; increasing working hours either by overtime or by using shifts; using more equipment and machinery; or any other procedure deemed practical.

Include in respondent's response for any overtime or abnormal shift required to complete the project.



## **B. MATERIAL DISCLOSURES**

### **Eligibility and Qualification Requirements**

The Respondent and/or the Respondent's sub-contractors (*hereinafter referred to as the Respondent*) must meet certain requirements specified herein, in order to be considered as acceptable to provide a Bid on the project. Respondents, sub-contractors and contracting teams, who fail to meet with the requirements specified herein as to qualifications, will not qualify for this project, and their responses will not be accepted.

The Respondent must have a minimum of 5 years' experience in the provision of contracting services to provide pipeline installation works

In addition to the experience of the firm or firms as noted above, the experience of the Contractor's Project Manager responsible for the project must have 5 years of experience in trenching pipeline installation and road works.

The Respondent shall submit with his completed response all appropriate documentation in order to demonstrate the necessary experience and expertise. This shall include descriptions of relevant and similar past projects, details of their Project Team with resumes of key personnel to be assigned to the project and the names and full details of the experience of any sub-contractors.

The Respondent shall provide a reference from a bank or other financial institution confirming the Respondent's capacity to provide the necessary financial resources to complete the works in accordance with the contract and schedule.

### **Submissions by a joint venture of two or more firms as partners shall comply with the following requirements:**

- i. The RFQ Documents, and in the case of a successful Respondent, the Form of Agreement shall be signed so as to be legally binding on all partners;
- ii. One of the partners shall be nominated as being the lead and this authorisation shall be evidenced by submitting a power of attorney signed by legally authorised signatories of all the partners;
- iii. The lead partner shall be authorised to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture, and the entire execution of the contract, including payment, shall be done exclusively with the lead partner;
- iv. All partners of the joint venture shall be liable, jointly and severally, for the execution of the contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorisation mentioned under ii. above as well as in the Submission Form, and the Form of Agreement (in the case of a successful Respondent); and
- v. A copy of the Agreement entered into by the joint venture partners shall be submitted with the Quotation.

## **C. MANDATORY SUBMISSION REQUIREMENTS**

### **1. Submission Form (Appendix B)**

Each quotation must include a Submission Form (Appendix B) completed and signed by an authorised representative of the respondent.

### **2. Pricing (Appendix C)**

Each quotation must include pricing information that complies with the instructions contained in pricing (Appendix C).

### **3. Certificate of Confirmation of Non-Collusion (Appendix E)**

Each quotation must include a Certificate of Confirmation of Non-Collusion Form (Appendix E) completed and signed by an authorised representative of the Respondent.

### **4. Company Certificate of Incorporation**

A signed copy of the Certificate of Incorporation must be included for respondents that are companies/corporations

### **5. Other Mandatory Submission Requirements**

#### **Statement of the length of time required to complete the Works.**

#### **Certificate of Incumbency**

A copy of the Certificate of Incumbency (Annex C) must be included for respondents that are companies/corporations.

#### **Company Profile Form and Project Team**

Each response must include a Company Profile Form. This shall provide the Respondent's qualifications and experience working on relevant projects (similar type and/or scope, logistics etc.)

In the event of a consortium, please attach additional Company Profile Forms. The Respondent must indicate the lead Company who will be the signatory to the Contract. The Lead Respondent shall indicate all subcontractors and their respective roles on the project.

An organisational chart outlining all project positions, including company names and the reporting arrangements for personnel, shall be included.

See Annex D - Company Profile Form

#### **Social, Economic and Environmental (Local Benefit)**

Each response must include the completed Local Benefit Form - Social, Economic, and Environmental (See Annex E)

Each respondent should provide the following in its offer.

- a) Percentage of Bermudians employed by the Respondent
- b) Number of Bermudians employed by the Respondent
- c) Is the Respondent a Specified Business?
- d) Will the Respondent use a Specified Business(es) in their supply chain?
- e) Will the Respondent use a Specified Business(es) as a subcontractor(s)?
- f) Does the Respondent offer evidence of (i) providing mentoring, apprenticeships or training opportunities for Bermudians, or (ii) being willing to offer them?
- g) Does the Respondent have (i) a safety and health policy; (ii) a sustainable goods and/or services policy; and (iii) an environmental policy?

## **D. MANDATORY TECHNICAL REQUIREMENTS**

### **Certification of Pipe Welding Machines**

Respondents must have a minimum of 3 years of experience in laying and fusing HDPE pipes. Fusion machine operators must have an internationally accredited certification for the operation of pipe welding machines as of the submission deadline of this RFQ. The contractor will be required to maintain this certification over the term of the Contract.

## **E. PRE-CONDITIONS OF AWARD**

### **Financial Checks**

Prior to awarding a contract to the selected respondent, the contracting department will perform financial checks to confirm whether the respondent is delinquent in making payments to the Government for Social Insurance contributions, Payroll Tax or any other debt recorded by the Accountant General's Debt Collection Section, and will perform a check with the Bermuda Registrar of Companies to confirm whether the respondent is a proper legal entity that is in good standing.

### **Financial Reference**

A financial reference from a bank or other financial institution confirming the Respondents capacity to provide the necessary financial resources to complete the works in accordance with the contract and schedule may be requested.

### **Method Statement and Schedule**

The respondent must provide a detailed method statement with the applicable timetable for all deliverables. A fully detailed schedule will be required to include all construction activities from commencement to completion of the project. All critical path construction activities will be identified. The key milestones in the construction process will also be identified.

## Safety and Health Plans

All works must be carried out in strict accordance with the Bermuda Occupational Safety and Health Act, 1982 and Occupation Safety and Health Regulations of 2009. Details of the Company's Covid-19 Safety protocols to be submitted.

Alcohol, Smoke and Drug-Free Policy: All Government buildings and worksites are designated as alcohol, smoke, and drug-free.

## Certificate of Insurance

The successful respondent shall furnish the Government with certificates showing the type, amount, class of operations covered, effective dates, and date of expiration of policies as may be expected. Such certificates shall also contain substantially the following statement: The insurance covered by this certificate will not be canceled or materially altered, except after thirty (30) days written notice has been received by the Government. (Endorsements to the Policy that name the Government as an Additional insured and establishment of cancellation notice are required). The required insurance coverage is set out in the Appendix to the Sample Form of Contract.

## F. RATED CRITERIA

The following sets out the categories, weightings and descriptions of the rated criteria of the RFQ. Respondents who do not meet a minimum threshold score for a category will not proceed to the next stage of the evaluation process.

#	Category	Weighting (%)	Threshold
1	Pricing	30	N/A
2	Technical Competence and Attendance of Pre-Bid site meeting	40	N/A
3	Social & Economic and Environmental (Local Benefit)	30	N/A
<b>Total Points</b>		100	

### 1. Pricing

See Appendix C - Pricing

### 2. Technical Competence and Attendance of Pre-Bid site meeting

The Company Profile Form and references will be used to evaluate the experience, capabilities and previous performance of the respondent. Previous experience of working for the Government will also be used in the evaluation. It is suggested the Respondent provide background information on the company's history and expertise to support their submission for this work. Attendance of a pre-bid site meeting will earn the respondent 5% of the overall weighting.

The following questions will be considered when each response is evaluated:

- Does the Respondent clearly demonstrate the ability to meet Government's requirements?
- Does the respondent have prior experience in working with public sector organisations?
- Can the respondent lead, facilitate and coordinate project planning and execution?

- Does the respondent offer evidence that they have sufficient, suitably experienced resources available to complete the work?
- Has the respondent performed well on previous projects of similar type and scope?
- Were the respondent's references positive about their experience working with the respondent?

### **3. Social & Economic and Environmental (Local Benefit)**

The local benefit considerations will be given to each of the following factors when proposals are evaluated:

- Number of Bermudians employed by the respondent;
- If the respondent is a specified business?
- Engagement of Bermudian employees (%) during the project;
- The willingness of the respondent to provide training opportunities;
- Use of specified businesses in the respondent's supply chain;
- Use of specified business as subcontractors (if applicable);
- Safety and health record of the respondent for the three immediately preceding years of reporting;
- Sustainable Goods and Services Policy;
- Environmental considerations and Policy (each respondent to provide a copy)

Reference checks may be done by the Government during the bid evaluation process to confirm any submitted information by the respondent. The Government reserves the right to contact references other than those provided by the respondent. If any references are unsatisfactory to the Government, the respondent may have its Bid rejected at the Government's sole discretion

# APPENDIX E – CERTIFICATE OF CONFIRMATION OF NON-COLLUSION

## Notes for the Respondent

The essence of Open Tendering is that the Government of Bermuda shall receive bona fide competitive quotation from suitably qualified persons or entities. In recognition of this principle, each person or entity that submits a quote will be required, by way of the signature of a duly authorised representative of the company, to confirm that the quotation has been submitted without any form of collusion.

All Respondents must complete and sign a Certificate of Confirmation of Non-Collusion. Any quotations submitted which do not include a signed copy of the Certificate will be wholly rejected and will not be included in the evaluation process.

If it is later found that the undertakings made below have been breached at any stage of the procurement process, then the Respondent will be expelled from the process immediately. In the event that this is discovered after a contract award, legal action may be taken against the Respondent and/or any party involved in the matter.

Any Respondent that submits false information in response to this Request for Quotations (RFQ), and any other person or entity involved in collusion, may be excluded from competing for future contracts tendered by the Government of Bermuda.

## Confirmation of non-collusion

I/We certify that this is a bona fide quotation, intended to be competitive and that I/We have abided by the terms and conditions related to this quotation and that I/We have not fixed or adjusted the amount of the quotation or the rates and prices quoted by or under or in accordance with any agreement or arrangement with any other person.

I/We confirm that we have not received any information, other than that contained within the RFQ pack, or supplementary information provided to all Respondents.

I/We also certify that I/We have not done and undertake that I/We will not do at any time any of the following acts:

- (a) communicating to a person other than the RFQ Contact the amount or approximate amount of my/our proposed quote (other than in confidence in order to obtain quotations necessary for the preparation of the quote for insurance);
- (b) entering into any agreement or arrangement with any other person that he shall refrain from competing or as to the amount of any quotation to be submitted; or
- (c) offering or agreeing to pay or give or paying any sum of money, inducement, gift /hospitality or valuable consideration directly or indirectly to any person in relation to this procurement.

By signing this document, I/we have read and agree to its terms and conditions.

(1) \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

(2) \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

for and on behalf of \_\_\_\_\_



**Department of Works and Engineering**

**WATER MAIN REPLACEMENT  
Parsons Road Devonshire  
Annex A - Form of Agreement**

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**AGREEMENT**

The Employer is Government of Bermuda, Ministry of Public Works  
PO Box HM 525, Hamilton, HM CX, Bermuda

The Contractor is \_\_\_\_\_

The Employer desires the execution of certain Works known as Water Main Replacement,  
Parsons Road, Devonshire

**OFFER**

The Contractor has examined the documents listed in the Appendix which forms part of this Agreement and offers to execute the Works in conformity with the Contract for the sum of

(in words) \_\_\_\_\_

(in figures) \_\_\_\_\_

This offer, of which the Contractor has submitted two signed originals, may be accepted by the Employer by signing and returning one original of this document to the Contractor before

(insert date) \_\_\_\_\_

The Contractor understands that the Employer is not bound to accept the lowest or any offer received for the Works.

Signature: \_\_\_\_\_ Authorised to sign on behalf of the Contractor

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

Capacity: \_\_\_\_\_

**ACCEPTANCE**

The Employer has by signing below, accepted the Contractor's offer and agrees that in consideration for the execution of the Works by the Contractor, the Employer shall pay the Contractor in accordance with the Contract. This Agreement comes into effect on the date when the Contractor receives one original of this document signed by the Employer.

Signature: \_\_\_\_\_ Authorised to sign on behalf of the Ministry of Public Works

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

Capacity: \_\_\_\_\_



## APPENDIX

This Appendix forms part of the Agreement.

Sub-Clause	Item	Data
<b>1</b>	<b>General Provisions</b>	
1.1.1	Documents forming the Contract listed in order of priority(delete if not applicable) (a) Letter of Acceptance  (b) Annex B – Pricing Proposal Price Breakdown (c) Appendix D – RFP particulars (d) Appendix E – Certificate of Confirmation of Non-Collusion (e) Addenda  (f ) Annex C -Specifications (g) Drawings\	Document Identification
1.1.9.....	Time for Completion	weeks
1.4	Law of the Contract	Laws of Bermuda
1.5	Language	English
<b>2</b>	<b>The Employer</b>	
2.1	Provision of Site	On the Commencement Date.
<b>3</b>	<b>Employer's Representatives</b>	
3.1	Authorised Person	Chief Engineer
3.2	Name and address of Employer's representative (if known)	Not applicable
<b>4</b>	<b>The Contractor</b>	
4.4	Performance Security (if any):	
4.4	Amount	
4.4	Form	

<b>7</b>	<b>Time for Completion</b>	
7.2	Time for submission	Within 14 days of the Commencement Date
7.2	Form of programme	Microsoft Project – Electronic format
7.4	Amount payable due to failure to complete	\$ 250 per day up to a maximum of 10% of sum stated in the
<b>9</b>	<b>Defects Liability</b>	
9.1& 11.5	Period for notifying defects	365 days calculated from the date stated in the notice under Sub-Clause 8.2
<b>10</b>	<b>Variations and Claims</b>	
10.2	Day work rates	Annex B– Proposal Price Breakdown
<b>11</b>	<b>Contract Price and Payment</b>	
11.1	Lump sum price	Annex B - Proposal Price Breakdown
11.2	Percentage of value of Materials and Plant	Materials 80%
		Plant 90%
11.3	Percentage of retention	10%
11.7	Currency of payment	Bermuda Dollars
11.8	Rate of interest	0.5% per annum
<b>14</b>	<b>Insurance</b>	
14.1	The Works, Materials, Plant and fees	The sum stated in the Agreement plus 15%
14.2	Contractor's Equipment	Full replacement cost
14.3	Third party injury to persons and damage to property	\$ 2,000,000.00
14.4	Workers	\$ 2,000,000.00
	Other Cover	
	Exclusions	
<b>15</b>	<b>Claims Disputes and Arbitration</b>	
15.3	Rules	Bermuda Arbitration Act 1986
15.3	Appointing authority	In accordance with the Bermuda Arbitration Act 1986
15.3	Place of Arbitration	Bermuda

## CONDITIONS OF CONTRACT

### 1.0 Plant and Design Build Contract - GENERAL CONDITIONS

The conditions of contract are the **Conditions of Contract for the Short Form of Contract, First Edition 1999**, published by the Federation Internationale des Ingenieurs-Conseils (FIDIC). This document is attached.

The General Conditions of Contract are amended by the Particular Conditions of Contract.

## 2.0 Short Form Contract - PARTICULAR CONDITIONS

### Preamble

These Particular Conditions supplement the General Conditions, and shall modify, delete and/or add to the General Conditions. Where any clause, paragraph, or sub-paragraph in the General Conditions is supplemented by one of the following paragraphs, the provisions of such clause, paragraph, or sub-paragraph shall remain in effect and the supplemental provisions shall be considered as added thereto. Where any clause, paragraph, or sub-paragraph in the General Conditions is amended, deleted or superseded by any of the following paragraphs, the provisions of such clause, paragraph, or sub-paragraph, not so amended, deleted or superseded shall remain in effect.

Clause numbers herein refer to the same clause numbers as in the General Conditions.

### A. References from Clauses in the GENERAL CONDITIONS

#### 4The Contractor

Add the following Sub-Clauses:

---

#### 4.5

##### Protection of Utilities

The Contractor shall carry out the Works so that there is the minimum of interruption to the supply of water, data/communications, electricity and other services through existing mains and services. Work involving interference with existing works of any kind shall only be carried out with the permission of and during such times and in such a manner as are agreed in writing by the Employer.

---

#### 4.6

##### Electricity Water & Gas

The Contractor shall be responsible for the provision of all, power water and other services that he may require for the Works and shall pay and bear all costs associated therewith.  
The Contractor shall carry out the Works so that there is the minimum of interruption to the supply of water, telephone, electricity and other services through existing mains and services. Work involving interference with existing works of any kind shall only be carried out with the permission of and during such times and in such a manner as are agreed in writing by the Engineer or competent Authority

---

#### 4.7

##### Reporting of Errors

The Contractor shall examine and compare the Contract Documents and shall report any errors, inconsistencies, or omissions he may find to the Employer immediately.

---

#### 4.8

##### Damage to Persons & Property

The Contractor shall, immediately on occurrence of any incident involving loss or injury at or about the Site, or in connection with the execution of the Works, report such incident to the Engineer or the Engineer's Representative. The Contractor shall also report such incident to the appropriate Authority whenever such report is required by Law.

---

#### 4.9

##### Rates, Wages, Hours and Conditions of Labour

The Contractor shall pay to all Foremen, Craftsmen, and Labourers not less than the rates of wages for the various Foremen, Craftsmen, and Labourers that prevail in Bermuda, and comply with such requirements relating to hours of work and conditions of labour as are or may be laid down from time to time by the Laws of Bermuda.

---

#### 4.10

**Facilities for Staff & Labour**

The Contractor shall provide such accommodation and amenities as he may consider necessary for all his expatriate staff and labour, employed for the purposes of or in connection with the Contract. The Contractor shall comply with all local statutes and regulations and any amendments thereto with regard to the health and safety of his employees and others, and shall provide adequate latrines for his workers on the Site to conform to the requirements of the Department of Health.

---

**4.11**

**Display of Notices**

The Contractor shall post notices to inform the workers of their conditions of work in conspicuous places at the establishments and work places concerned.

---

**4.12**

**Alcoholic Liquor & Drugs**

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinance and Government Regulations or Orders for the time being in force, import, sell, give, barter, or otherwise dispose of any alcoholic liquor, or drugs, or permit, or suffer any such importation, sale, gift, barter, or disposal by his sub-contractors, agents, or employees.

---

**4.13**

**Arms and Ammunition**

The Contractor shall not give, barter, or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same aforesaid.

---

**4.14**

**Festivals & Religious Festivals**

The Contractor shall in all dealings with labour in his employment have due regard to all recognised festivals, public holidays, days of rest, and religious or other customs.

---

**4.15**

**Epidemics**

In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders, and requirements as may be made by the Government, or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

**15 Resolution of Disputes and Arbitration**

Delete Sub-Clauses 15.1 in its entirety and replace with the following:

---

**15.2**

**Notice of Dissatisfaction**

This clause is deleted in its entirety and replaced by:

If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Employer, a notice of dissatisfaction shall be issued by either Party to the other Party. Where such notice is given both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at an amicable settlement has been made.

---

**15.3**

**Arbitration**

This clause is deleted in its entirety and replaced by:

Unless settled amicably, any dispute shall be finally settled by arbitration,

unless otherwise agreed by both Parties:

(a) the dispute shall be finally settled in accordance with the Bermuda Arbitration Act 1986

(b) the dispute shall be settled by arbitrators appointed in accordance with the said Act, and

(c) the arbitration shall be conducted in the English language.

The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute. Nothing shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence nor did arguments previously put before the Engineer to obtain his decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the Engineer shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works, by mutual agreement. The obligations of the Parties and the Engineer shall not be altered by reason of any arbitration being conducted during the progress of the Works.

**B. Additional Clauses to be added to the GENERAL CONDITIONS**

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<b>16.0</b>	
<b>Taxation</b>	The Contractor shall be required to pay Bermudian Taxes on all Contractor's Equipment (except as described in the Fifth Schedule, Section 2 of the Customs Tariff Act 1970) materials and other things of whatsoever nature brought into Bermuda for the purpose of Contract.
<hr/>	
<b>17.0</b>	
<b>Bribery</b>	Any commission, advantage, gift, gratuity, reward, or bribe given, promised, or offered by or on behalf of the Contractor or his agent or servant or any person on his or their behalf to any officer, servant, representative, or agent of the Employer or Engineer or to any person on their behalf or on behalf of any of them in relation to the obtaining or to the execution of this or of any other Contract with the Employer shall in addition to any criminal liability which may be thereby incurred subject the Contractor to the cancellation of this and of all other contracts which he may have entered into with the Employer and also to the payment of any loss or damage resulting from such cancellation.
<hr/>	
<b>18.0</b>	
<b>Debt Recovery</b>	The Employer shall be entitled upon a certificate in writing of the Engineer to deduct the amounts so certified from any monies or otherwise due to the Contractor under this or any other contract or to recover the said amounts as a debt due or partly the one and partly the other as the Employer shall deem advisable.
<hr/>	
<b>19.0</b>	
<b>Strikes and Lock-Outs</b>	The Contractor shall forthwith notify the Employer of the commencing of any strike or lock-out and the Employer, on account of any delay caused thereby, may grant such extension of time as he considers reasonable, without prejudice to the right of the Employer to exercise after the expiration of such reasonable extension of time the rights and powers under these Conditions in case of default by the Contractor.
<hr/>	
<b>20.0</b>	
<b>Laws, Regulations and Orders</b>	The Contractor shall make himself fully acquainted with the Laws, Regulations and Orders of Bermuda and of any competent/statutory Authority and shall conform in all respects therewith during the continuance of the Contract. He shall conform similarly with any such Laws, Regulations and Orders which may come in to force after the date of this Agreement.
<hr/>	
<b>21.0</b>	
<b>Construction of Contract</b>	The Contract shall in all respects be constructed and operated in conformity with the Laws of Bermuda and the respective rights and liabilities of the Parties shall be in accordance with the Laws for the time being in force.
<hr/>	
<b>22.0</b>	
<b>Members and Staff of Employer and Engineer not Personally Liable</b>	Neither the members nor the staff of the Employer shall be in any way personally bound or liable for the acts or obligations of the Contractor under the Contract or answerable for any default or omission in the observance or performance of any of the acts, matters or things which are herein contained.
<hr/>	
<b>23.0</b>	

**Details to be Confidential**

The Contractor shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Employer. If any dispute arises as to the necessity or disclosure for the purpose of the Contract the same shall be referred to the decision of the Employer whose award shall be final.

**24.0**

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**Rights and Remedies Not Waived**

In no event shall the making by the Employer of any payment to the Contractor constitute or be construed as a waiver by the Employer of any breach of Contract, or any default which may then exist, on the part of the Contractor, and the making of any such payment by the Employer while any such breach or default exists shall in no way impair or prejudice any right or remedy available to the Employer in respect of such breach or default.

*END OF CONTRACT DOCUMENTS*



## Annex B Price Breakdown

(Note: all sheets form part of the tender)

ITEM	DESCRIPTION	UNIT	RATE	QUANTITY	SUM
1.	Mobilization	Lump Sum		SUM	
2.	Supply of 6" HDPE DR11 pipe	per ft		6150	
3.	Supply of fittings (attach itemized Bill of Materials Sheet).	Lump Sum		SUM	
4.	Traffic Control	Lump Sum		SUM	
5.	Excavation Backfill & Reinstatement of Pits for Pipe Bursting Operation	per pit		11	
6.	Inserting pipe inside existing pipe using pipe bursting	per ft		4550	
7.	Pipe connection new to existing (final & temporary)	per connection		10	
8.	Temporary Pipe connections at each pit	per connection		11	
9.	Excavation of trenching	per ft		600	
10.	Installation of pipework in trench	per ft		600	
11.	Backfill trench and reinstatement	per ft		600	
12.	Service connections inclusive of ¾" HDPE saddle, pipe supply, trenching, pipe installation, backfill and reinstatement	per connection		20	
13.	Installation of 6" flanged gate valve (valve provided by owner)	Item		3	
14.	Installation of 3" flanged gate valve (valve provided by owner)	Item		2	
15.	Hydrostatic Testing	Lump Sum		SUM	
16.	<b>Contractor specified items:</b> Any elements of work or expenditure not covered elsewhere in the Tender Price Analysis and are necessary in the execution of this work.  Bidder to itemise:	Lump Sum			
<b>TOTAL TENDER SUM FORWATERMAIN WORKS</b>		Lump Sum			
Number of sheets, appended by the bidder to this Form ..... (If nil, enter NIL).					
<b>SIGNED ON BEHALF OF BIDDER:</b> .....					

## Labour and Mark-Up Rates

(Note: all sheets form part of the tender)

### Labour & Equipment Rates for Works

ITEM	DESCRIPTION	QUANTITY	RATE
1.	<b>Foreman/Site Supervisor</b>	Hourly Rate	
2.	<b>Pipe Fitter</b>	Hourly Rate	
3.	<b>Labour</b>	Hourly Rate	
4.	<b>Excavator/Trenching Machine (as required by contractor)</b>	Hourly Rate	
5.	<b>Excavation of Hard Rock (contractor to state machine Size)</b>	Hourly Rate	
6.	<b>Traffic Control</b>	Daily Rate	
7.	<b>Road Reinstatement</b>	Per sq. ft.	
8.	<b>Trucking</b>	Hourly Rate	
9.	<b>Pipe Bursting Machine</b>	Hourly Rate	
10.	<b>Contractor specified items:</b> Additional Day Work Rates for Labour, Materials or Equipment necessary for the execution of this work. See FIDIC Clause 13.6		
Number of sheets, appended by the bidder to this Form ..... (If nil, enter NIL).			
<b>SIGNED ON BEHALF OF BIDDER:</b> .....			

### Mark-Up Rates for WATER MAIN Works

ITEM	DESCRIPTION	RATE (%)
1.	<b>Overhead and Mark-Up (own work)</b>	
2.	<b>Mark-Up (Sub-Contracted labour and materials)</b>	

**CERTIFICATE OF INCUMBANCY**

The undersigned being the Secretary of the company as named below (the "Company"), a company duly organised and existing under the laws of the Islands of Bermuda and having its registered office as set out below DO HEREBY CERTIFY that the following is a true and correct listing of the Directors and Officers of the Company in full force and effect as of the date hereof.

DIRECTORS

List

ALTERNATE DIRECTORS

List

OFFICERS

List

IN WITNESS WHEREOF I have hereunto set my signature in accordance with the Bye-Laws of the Company.

Company Name: .....

Date: .....

\_\_\_\_\_  
Secretary/Director

# COMPANY PROFILE FORM

This document comprises the following Sections:

- Section I: Company Information
- Section II: Product or service details
- Section III: Company Experience; Professional and Technical Staff
- Section IV: Customer experiences

## Section I

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Company Information		
<b>Vendor name</b>	<b>Vendor industry</b>	
<i>[Company legal name]</i>	<i>[Primary offering (Construction category, Engineering services, etc.)]</i>	
<b>Company description</b>	<i>[Insert background and general company information]</i>	
Contact Information		
<b>Primary Contact</b>	<b>Phone</b>	<b>Email</b>

## Section II

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Product or Service Details	
<b>Details and Capabilities</b>	<i>[Detailed description of the product or service your company provides ]</i>
<b>What are your primary differentiators?</b>	<i>[Provide an overview of three of your competitive advantages]</i>
<b>Resources proposed to work on HDPE pipe laying and fusing</b>	<i>[Provide background information on the resources proposed to work on a pipe laying and HDPE fusing project ].</i>
<b>Delivery timeline</b>	<i>[Typical delivery timeline]</i>

## Section III

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### Company Experience, Professional and Technical Staff

<b>Relevant Experience</b>	<i>[Provide information about previous experiences, clients, or success stories. Minimum of 3 examples]</i>
<b>Key Personnel</b>	<i>[Provide an outline of proposed Project Team. Include details of the Operations Manager and of key operational personnel and their experience, certifications and/or skills]</i>

## Section IV

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Customer Experience					
<b>Professional References</b>	<p><i>Provide information requested below for at least three (3) recent clients who have obtained goods and services similar to those described in this RFSQ in the last 3 years. <b>Attach corresponding reference letters to your submittal.</b></i></p>				
	<i>Project</i>	<i>Date Complete</i>	<i>Contact Name</i>	<i>Phone#</i>	<i>e-mail</i>

## LOCAL BENEFITS

### (SOCIAL, ECONOMIC AND ENVIRONMENTAL)

**All pages of this form must be completed and returned with the Proponent's response.**

This form is used to gather information to influence and help the economic transformation and enable meaningful participation of Bermudians and "specified business" in Bermuda's economy. This form looks at the ownership, management structures, and skill development opportunities and to learn more about the businesses bidding on Government Contracts. The Government's aim is to increase access to local economic activities and encourage skills training opportunities for Bermudians and the Government's use of specified businesses.

Rated criteria in the Government's Standard Evaluation Matrix Section 3 is equivalent to 40% of the overall score. It helps the public officers to measure, promote equal opportunities, and optimize the participation of specified businesses.

Date: .....

#### Ownership:

1. Bermudian Owned Business.....  Yes  No
2. Are you defined as a "Specified Business" in Bermuda (Small or Medium Sized)?  
 Yes  No  
 Other \_\_\_\_\_

**Definition** - According to the Code of Practice Project Management and Procurement (page 8 and 9), "**Specified Business**" means a Bermudian-owned and owner-operated business enterprise with such characteristics as the Bermuda Economic Development Corporation may determine and

(A) gross annual sales of less than one million dollars, or an annual payroll of less than five hundred thousand dollars; or

(B) at least three of the following attributes:

- (i) gross annual revenue of between \$1,000,000 and \$5,000,000;
- (ii) net assets of less than \$2,500,000;
- (iii) an annual payroll of between \$500,000 and \$2,500,000;
- (iv) between a minimum of 11 and a maximum of 50 employees; and
- (v) been in operation for a minimum of 10 years.

Please note that BEDC has not yet requested any additional requirements of businesses to be categorized as a Specified Business. Any Bermuda owned company that satisfies the criteria on item A or item B above will be considered a Specified Business.

3. Provide a copy of the Certificate of Incorporation (if applicable).

Copy attached  Yes  No

4. Number of employees/Bermudians

Please indicate the total number of persons employed by the company and the number and percentage of Bermudian employees.

NUMBER OF NON-BERMUDIANS:	
NUMBER OF BERMUDIANS:	
NUMBER OF SPOUSES OF BERMUDIANS:	
NUMBER OF EMPLOYEES:	
PERCENTAGE OF BERMUDIANS:	

**Skill Development - Apprenticeships/training opportunities**

5. Does your business offer internship, apprenticeships or training opportunities?

Yes  No

6. Does your business offer Bermudian's internships opportunities?

Yes  No

7. Does your business offer Bermudian's apprenticeships/training opportunities?

Yes  No

8. Is your business willing/able to provide Bermudians new internship, apprenticeship or training opportunities?

Yes  No



9. If yes, to questions 6, 7 or 8, what apprenticeship or training opportunities exist, please indicate below. (add more lines as needed)

<u>EMPLOYEE NAME</u>	<u>NON BERMUDIAN</u>	<u>BERMUDIAN</u>	<u>(month/year)</u>	<u>NAME OF INTERNSHIP OR APPRENTICESHIP PROGRAM OFFERED BY YOUR COMPANY</u>

**Preference Procurement**

10. Will the proponent use Bermuda specified businesses in their supply chain?

Yes \_\_\_\_\_ No \_\_\_\_\_

Please provide an explanation \_\_\_\_\_

11. Will the proponent use Bermuda specified business sub-contractors (if applicable)?

Yes \_\_\_\_\_ No \_\_\_\_\_

Please provide an explanation \_\_\_\_\_

**Enterprise and Supplier Development**

12. Has the respondent participated in the BEDC Construction Incubator or any other Business Program

Yes  No, if yes, state program \_\_\_\_\_ and year \_\_\_\_\_

**13. Safety and Health, Sustainability and Environmental Policies**

Please indicate whether the business has a:

a) Safety and Health Policy,

Yes                       No,    if yes, then please provide a copy.

b) Sustainable Goods and Services Policy

Yes                       No,    if yes, then please provide a copy.

c) Environmental Policy.

Yes                       No,    if yes, then please provide a copy.

PARSONS ROAD WATER  
MAINS REPLACEMENT

ANNEX F - SPECIFICATION

## List of Contents

SECTION 01010: SUMMARY OF WORK  
SECTION 01310 PROJECT MANAGEMENT AND COORDINATION  
SECTION 01500: TEMPORARY FACILITIES AND CONTROLS  
SECTION 01561: ENVIRONMENTAL PROTECTION  
SECTION 01700: PROJECT CLOSEOUT  
SECTION 02300 - EARTHWORK  
SECTION 15670 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE  
SECTION 15674 – WATERMAIN REPLACEMENT BY PIPE BURSTING  
SECTION 15675 – RESILIENT SEATED GATE VALVE

## SECTION 01010: SUMMARY OF WORK

### **PART 1 – GENERAL**

#### **1.1 Scope Of Work Covered By Contract Documents**

- A** The Works involve the supply and installation of a replacement 6-inch diameter HDPE water main in Parsons Road, in Devonshire and City of Hamilton from Frog Lane Roundabout to Court Street. This will be undertaken in sections of either open trench works or by installing a new pipe inside an existing 6-inch PVC water main using pipe bursting techniques from access pits.
- B** The Works consist of:
- A. The excavation of an open trench along Parsons Road to install a 6-inch pipe replacement for an existing 6" dia main over a nominal length of 600ft, including backfill and reinstatement of the trench and road surface.
  - B. The excavation of 11 access pits along a route of 4,550 ft of 6-inch pipeline, open up existing pipe and install a new 6-inch HDPE inside of existing PVC pipe using pipe bursting techniques. The work will include reconnecting the new to existing at each pit and backfill and reinstatement of the pit and road surface.
- C** Along the route 20No. Service connections from the new 6" diameter main to existing ¾ inch water meters required.
- D** A 4" diameter tee off to an isolation valve to be installed to connect the new pipeline to the existing PVC water mains at the following junctions with Parsons Rd.
- 1. Frog Lane
  - 2. Tribe Rd #3
  - 3. The Glebe Road
  - 4. St Augustine's Road
  - 5. Fenton's Drive
  - 6. Court Street
- E** Installation of a flow meters in existing chambers and associated shut off valves.
- F** The contractor will be responsible for the transport of all materials to storage on site or off site.
- G** The Project shall be constructed under the FIDIC Conditions of Short Form of Contract.

## **1.2 Security of the Site**

- A** The contractor is responsible for maintaining the security of the site area.
- B** The contractor shall ensure that there is no access to the active work site by members of the public during the contract period.
- C** The contractor is responsible for all traffic regulation to ensure a safe working area.

## **1.3 Contract Method Of Measurement**

- A** The measure shall be the actual measure of works completed and paid in accordance with the rates submitted by the Contractor excluding any disallowed costs. The actual cost shall be assessed by the Employer's Representative from the supporting information submitted by the Contractor.
- B** All work to complete the trenching, installation and reinstatement as detailed on the drawings and in these Technical Specifications shall be covered within the prices in the Form of Tender. All prices shall be all-inclusive and include all preliminary set up costs, labour, equipment and materials to complete each task. If a specific task is not identified separately in the Form of Tender, the Contractor shall assume that it is included as part of another related listed item or items.

## **1.4 Project Programme of Works**

- A** Contractor shall submit a programme for the works coordinating all tasks and activities to monitor construction progress.
- B** Work sequence shall take into account the operating hours of the Government waste disposal sites.

## **1.5 Use Of Premises**

- A** Not Applicable

## **1.6 Work Under Other Contracts**

- A** Not Applicable

**\*\*\* END OF SECTION 01010 \*\*\***

## **SECTION 01310 PROJECT MANAGEMENT AND COORDINATION**

### **PART 1 – GENERAL**

#### **1.1 Submittals**

- A** Schedule of Work.
- B** Method Statement for the whole of the works.
- C** Health and Safety plan including a traffic management plan for the whole of the works.
- D** Insurances.

#### **1.2 General**

- A** Provide to Employer's Representative for review the submittals specified. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in the Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- B** Do not proceed with Work affected by any submittal until review is complete.
- C** Review submittals prior to submission to the Employer's Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with the requirements of the Work and Contract Documents. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and will be considered rejected.
- D** Verify that field measurements and affected adjacent Work are coordinated.
- E** Contractor's responsibility for errors and omission in submission is not relieved by Employer's Representative review of submittals
- F** Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Employer's Representative review.
- G** Keep one review copy of each submission on Site.

### **1.3 Programme Of Work**

**A** Prepare schedule in the form of a linked bar chart. All events, activities and constraints shall be numbered and shall be given a title. Details to be given for each event, activity or constraint should include:

- its title
- its earliest and latest start and finish dates
- its scheduled start and finish dates
- its duration
- any relevant “must” start or finish dates
- resources (equipment and labour) required.

**B** Provide a separate bar for each event, activity, operation or constraint. Show proposed progress of all activities for main work items. All construction activities must be identified. Where applicable, indicate labour, construction crews, plant and equipment to be employed.

**C** The project Programme of Works shall provide at least the level of detail listed below:

- Trenching works, installation of replacement water main and reinstatement of road surface along Fort Hill Road
- Trenching works, installation of water main and reinstatement of verge and road surface along Middle Road
- Excavation works for pull pits, installation of water main and reinstatement of road surface along Middle Road
- Transportation of construction debris to approved site
- Making good the site area

**D** The key milestones in the construction process shall also be identified. Schedule milestones will include but not be limited to the following:

- Start date on site.
- Delivery dates for equipment and materials.
- Completion of access pits on each road segment.
- Completion of water main installation and connection to existing watermains on each road segment to minimise the time the supply is shut down
- Reconnection of service connections along the route
- Completion of road reinstatement on each road segment
- Final handover (final completion).



- E** Revise and resubmit programme every two weeks to reflect actual progress on the Works.
- F** With schedule updates, provide written explanations to Employer's Representative as to why previously reviewed programme is not being met (if applicable).
- G** Show changes in operations proposed (if required), to complete construction works within Contract Time.
- H** No progress payments will be approved until receipt of programme updates acceptable to the Employer's Representative.

#### **1.4 Work Hours**

- A** The Work shall be carried out during normal working hours (7.00 am until 6.00pm Monday to Saturday) unless the Works are unavoidable or necessary for saving life or property or for the safety of the Works, or as per any instruction from an applicable governmental authority. In such cases the Contractor shall advise the Employer's Representative of the need to perform such extraordinary Works.
- B** The Employer will not accept claims for overtime unless the Works are as a result of an unforeseen condition and must be completed outside normal working hours.
- C** The Contractor is aware that the Works are to be carried out on public roads which may cause interruption to the Works during peak traffic times.

#### **1.5 Method Statements**

- A** Provide Method Statement for each key activity, as requested by Employer's Representative, to show construction methods, equipment and general methodology for carrying out the Work. Relate Method Statement to activities shown on Construction Programme.
- B** Method Statement shall identify, among other things:
- Sequencing of works.
  - Methods of excavation.
  - Methods of water mains installation and connections to minimise the shut down of customer supplies.

- Methods to ensure appropriate environmental protection.
- Risk assessment of the hazards involved in the works.
- Other key tasks as specified in the Contract Documents, and/or as requested by the Employer's Representative.

## **1.6 Certificates**

- A** Contractor shall be required to obtain a Trenching License and other required approvals from the Ministry of Public Works, Government of Bermuda.
- A** Within 10 working days after award of Contract, submit certificates of insurances.

## **1.7 Utilities**

- A** The Contractor shall contact representatives of all utilities to ascertain the location of all underground services. All such services positions shall be clearly marked at the surface PRIOR to any excavation works commencing.
- B** The Contractor shall be fully responsible for any damage to services that were clearly marked at the surface caused by the Contractors work and shall fully indemnifies the Employer from any liability arising from any such damages.
- C** The Contractor shall maintain such markings at the surface at all times.
- D** When approaching underground services, the Contractor shall cease mechanical digging when machinery is within three (3) feet of the service location or when digging indicates that a service is present. Hand digging shall be used when crossing and exposing utilities and mechanical digging shall only be resumed once the utility service has been fully exposed and confirmed to be undamaged.

## **1.8 Daily Records**

- A** The Contractor shall maintain accurate daily records of all works undertaken, all resources present on site, and of the progress.
- B** Records shall be submitted to the Employer at least weekly and the Contractor may inform the Employer's Representative at any time that it is recording pertinent information.
- C** Records of any Works that have or have not been carried out that may affect the Schedule shall be used to update the Schedule.

## **1.9 Inspections**

- A** At all times the Employer's Representative shall be allowed to visit the Site to inspect the Works.
- B** Prior to closing in any part of the Works, the Contractor shall notify the Employer's Representative with at least 48 hours' notice and afford him full opportunity to examine the Works before it becomes inaccessible.
- C** Any excavation works closed before the pipe work has been hydro-tested shall be at a minimum, uncovered at the joints to allow the Employer's Representative to inspect the joints during the test. Such Works shall be to the account of the Contractor.
- D** The Employer's Representative shall reasonably make himself available at the request of the Contractor.

## **1.9 Safety and Health**

- A** All Works shall be conducted in accordance with the Health and Safety at Work Act 1982. The Contractor shall erect appropriate traffic warning signs and safety barriers. Safe access must be maintained to all public and private properties at all times.
- B** All workers under the employ of the Contractor, including any sub contractors it may employ shall comply with the Health and Safety at Work Act 1982 and at a minimum wear at all times.
  1. A hard hat
  2. Metal toe safety boots
  3. Reflective vests.

Any workers not wearing appropriate safety gear may be requested by the Employer's Representative to leave the Site, at which time they shall inform the Contractor that they have been requested to leave, and not return until they comply with the Applicable Law or regulations.
- C** All staff and sub-contractors, under the employ of the Contractor, shall be supplied with written health and safety instructions which they shall read, date and sign prior to commencing work. The signed instructions shall be held by the Contractor and copies shall be provided to the Employer.
- D** When the Site includes public property such as roads or parks the Site shall be protected from public access with temporary barriers and signs which shall provide appropriate warnings, the Contractors name and a contact telephone number.

**E** In completing the Works, the Contractor shall comply with all Health and Safety requirements of Applicable Law including all licenses issued by the Bermuda Government to permit the Works including, without limitation, the trenching license obtained by the Contractor to complete the Works (the "Trenching License")

**\*\*\* END OF SECTION 01300 \*\*\***

## **SECTION 01500: TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 - GENERAL**

#### **1.1 Summary**

- A** This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

#### **1.2 Use Charges**

- A** The Contractor will be responsible for all temporary works required and shall be required to test, repair/replace or enhance the utility services as necessary to facilitate the Works.
- B** The Contractor shall allow other entities to use temporary services and facilities without cost, including, but not limited to, Employer's Representative, testing and inspecting agencies and personnel of authorities having jurisdiction.

#### **1.3 Temporary Utility Installation**

- A** Electrical Service:

Where necessary, engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.

1. Arrange with utility company, Employer, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide alternate services.

**B****Sanitary Facilities:**

Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

**Disposable Supplies:** Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.

**Toilets:** Install self-contained toilet units. Shield toilets to ensure privacy.

**Wash Facilities:** Supply cleaning compounds appropriate for each type of material handled.

**Drinking-Water Facilities:** Provide bottled-water, drinking-water units. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg F (7.2 to 12.7 deg C).

## **SECTION 01561: ENVIRONMENTAL PROTECTION**

### **PART 1 - GENERAL**

#### **1.1 Environmental Measures**

- A** Meet or exceed the requirements of all Bermuda environmental legislation and regulations, including all amendments up to project date provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- B** At all times during the Works the Contractor shall maintain the Site and surrounding areas in a clean and orderly manner.

### **PART 2 – PRODUCTS**

- A** Not Applicable.

### **PART 3 - EXECUTION**

#### **3.1 Fires**

- A** Fires and burning of rubbish on site will not be permitted.

#### **3.2 Disposal Of Wastes**

- A** Burying of rubbish and waste materials on site will not be permitted.
- B** Collect all rubbish and waste material and dispose of in accordance with the latest editions of the Ministry of Works and Engineering, Waste Management Plan.
- C** Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- D** When cleaning with needle scabblers, provide enclosures, screens and traps to confine and contain all material and paint debris and other extraneous material.
- E** Do not allow any paint debris or other foreign material to enter the water.
- F** Hazardous waste such as lead paint debris should be double-bagged (as asbestos would be) and sent to proper waste stations. Manifest will be required by the Employer's Representative.

### **3.4**

#### **Drainage**

- A** Provide temporary drainage and pumping as necessary to keep site free from water.
- B** Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- C** Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with Bermuda Government Authority requirements.

### **3.5**

#### **Plant Protection**

- A** When, in opinion of Employer's Representative, negligence of Contractor results in damage or destruction of vegetation, or other environmental or aesthetic features beyond work areas as shown on contract drawings, the Contractor shall be responsible, at his expense, for complete restoration including replacement of trees, shrubs, grass, etc. to satisfaction of Employer's Representative.

### **3.6**

#### **Pollution Control**

- A** Maintain temporary erosion and pollution control features installed under contract.
- B** Control emissions from equipment and plant to Bermuda Government authorities' emission requirements.
- C** Prevent extraneous materials from contaminating air, land or water, by vacuum, temporary enclosures, screens, traps or other devices.
- D** Spills of deleterious substances should be immediately contained and cleaned up in accordance with provincial regulatory requirements. Spills should be reported forthwith to the Employer's Representative.
- E** Noise levels emitted from construction activities are subject to Bermuda Government requirements.



### 3.7

#### **Storage And Handling Of Fuels And Dangerous Fluids**

- A** Locate fuel storage facility a minimum of 100 m from any waterbody in an area approved by the Employer's Representative and construct impermeable dykes so that any spillage is contained
- B** Prevent spillage of gasoline, diesel fuel and other oil products into the water and on land. Clean up spills promptly at own cost in accordance with Bermuda Government regulatory requirements. Report any fuel spills immediately to Employer's Representative
- C** Proper use of primers, grouts, bonding adhesives and other hazardous substances will be undertaken to prevent their entry into the water. Substances are to be stored and mixed on protected surfaces away from site to prevent their entry into waterways and contamination of soils.
- D** Collect and dispose of used oil filter cartridges and other products of equipment maintenance at industrial waste facility to satisfaction of Employer's Representative.

**\*\*\* END OF SECTION 01561 \*\*\***

## SECTION 01700: PROJECT CLOSEOUT

### **PART 1 - GENERAL**

#### **1.1 Cleaning**

- A** Use cleaning materials as recommended by product manufacturers and appropriate specification sections. Employ experienced workmen or professional cleaners.
- B** Before inspection for substantial completion, do all necessary cleaning, including the following:
1. Remove dust, dirt and debris from all surfaces
  2. Remove, clean all surfaces of oils, stains, weld splatters, etc as required.
  3. Refer to specification sections for additional requirements for particular surfaces.

#### **1.2 Substantial Completion And Final Inspection**

- A** Submit written certification that project, or designated portion of project, is substantially complete, and request, in writing, an inspection. The Employer's Representative will make an inspection within 10 days of receipt of request.
- B** Should the Employer's Representative determine that the work is substantially complete, he will prepare a punch list of deficiencies that need to be corrected before final inspection and issue a notice of substantial completion with the deficiencies noted.
- C** Should the Employer's Representative determine that the work is not substantially complete, he will immediately notify Contractor, in writing, stating reasons. After Contractor completes work, he shall re-submit certification and request for final inspection.

#### **1.3 Close-Out Submittals**

- A** The project shall be closed out when all items have been completed and accepted by the Employer's Representative.
- B** Refer to **EXECUTION** portion of each specification section for closeout requirements, including submission of certifications, test reports, etc.; provision of spare parts and maintenance materials, all of which shall be neatly wrapped or packaged in standard sizes and clearly labeled.

- C** Certificate of insurance for products and completed operations.
- D** Typed list of all major subcontractors and suppliers with addresses and telephone numbers.

**1.4 Acceptance Of The Work**

- A** After all deficiencies have been corrected and the work has undergone a final inspection with no deficiencies, a Taking-Over Certificate will be issued. If only designated portions of the project have been inspected and accepted, a Taking Over-Certificate will be issued for that portion of the Work.
- B** Until receipt of Taking-Over Certificate, Contractor shall be responsible for the work of this Contract.

**PART 2 PRODUCTS**

- A** Not Applicable

**PART 3 EXECUTION**

- A** Not Applicable

**\*\*\* END OF SECTION 01700 \*\*\***

## **SECTION 02300 - EARTHWORK**

### **PART 1 - GENERAL**

#### **1.1 Summary**

**A** This Section includes the following:

1. Excavating and backfilling for utility installation.

#### **1.2 Definitions**

**A** Backfill: Soil material used to fill an excavation

1. Initial Backfill: Backfill placed beside and 12 ins over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

**B** Base Course: Course placed between the sub base course and hot-mix asphalt paving.

**C** Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.

**D** Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

**E** Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Employer's Representative. Authorized additional excavation and replacement material will be paid for according to Contract provisions changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Employer's Representative. Unauthorized excavation, as well as remedial work directed by Employer's Representative, shall be without additional compensation

**F** Sub base Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk

**G** Utilities: On-site underground pipes, conduits, ducts, and cables.

### **1.3 Project Conditions**

- A** Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Employer's Representative and then only after arranging to provide temporary utility services according to requirements indicated.

## **PART 2 - PRODUCTS**

### **2.1 Soil Materials**

- A** General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B** Bedding Course& Initial Backfill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 3/16 inch sieve and not more than 8 percent passing a No. 200 sieve.

## **PART 3 - EXECUTION**

### **3.1 Preparation**

- A** Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B** Prior to excavation in asphalt surfaces the excavation edge shall be cut with a road saw cutting to a minimum depth of 5 inches.

### **3.2 Excavation for Trenches**

- A** Excavate trenches to indicated gradients, lines, depths, and elevations.
- B** Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 30 inches higher than top of pipe or conduit, unless otherwise indicated.
1. Clearance: Excavate a minimum width of 4 ins on each side of pipe.
- C** Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
1. Excavate trenches 4 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

### **3.3 Excavation of Machine Access Pits**

- A** Excavate pits to a depth not less than 12 inches below the existing pipe to be burst. The width and general size of the pit shall be the minimum required to support the access for pipe bursting machinery.
- B** The side of the excavations shall be vertical to allow proper shoring to support adequate bursting pressures to be applied by the bursting machine.
- C** The pit bottom subgrade shall be excavated to provide continuous support for joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects in the pit subgrade.

### **3.4 Hard Rock**

- A** In the event that the trenching machine cannot remove harder than normal rock during excavations then, after notification to, and by agreement with, the Employer's Representative this rock shall be removed by hammering. The rates for hammering shall be charged on an hourly basis as per the prices described in Schedule of Rates on The Form Of Tender.

### **3.5 Unforeseen Conditions**

- A** In the event that during excavations, the Contractor encounters conditions that are deemed by agreement with the Employer's Representative to be outside the conditions expected, it may make a claim for both an extension of time and increased costs to continue with the excavations.
- B** Hard Rock shall not be deemed to be an unforeseen condition.
- C** Unforeseen conditions shall require immediate notification to the Employer's Representative who shall inspect the Works immediately.

### **3.6 Excavation Backfill**

- A** Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- B** Place and compact initial backfill of sub base material, free of particles larger than 3/16 inch in any dimension, to a height of 8 inches over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

C Place and compact final backfill of satisfactory soil to final subgrade elevation.

### **3.7 Compaction of Backfill Material**

A All excavations shall be backfilled to restore pre-existing surface conditions as a minimum requirement.

B Place backfill and fill materials in layers not more than 12 inches in loose depth for material compacted by adequately sized tampers.

C The minimum compaction requirements are to a 95% Standard Proctor maximum dry density test.

### **3.7 Protection**

A Where settling occurs before the Maintenance Period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing at no additional cost to the Employer.

### **3.8 Reinstatement**

A Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible. Permanent re-instatement of all public and private property will be completed others.

B Reinstatement may be completed in stages and the warranty shall be started for each stage upon its completion. Percentage of completed Works shall be by agreement with the Employer's Representative.

C The Contractor shall comply with all requirements of the Trenching License and shall indemnify the Employer against any claim under the terms of the Trenching License for the end of maintenance requirements, specifically Clause 8 of the Trenching License Standard Conditions.

### **3.9 Disposal of Surplus and Waste Materials**

A Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it.

B Since the Works are to be carried out on public roads, debris shall not be allowed to accumulate and the Contractor shall remove any debris at the

instruction of the Employer's Representative should he deem it to be a hazard to the public.

**3.10 Traffic Management**

**A** The Contractor shall at all times maintain at least one (1) lane of the carriage way open to the public and free of any excavation materials

**B** The Contractor shall comply with all traffic management requirements of the Trenching License and any other governmental authority requirements of Applicable Law.

**\*\*\* END OF SECTION 02300 \*\*\***



## **SECTION 15670 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE**

### **PART 1 - GENERAL**

#### **1.1 Requirements**

- A** The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor required to complete the work as indicated on the Drawings and specified herein.
- B** This Section covers furnishing and installing High Density Polyethylene (HDPE) pipelines complete, in place, in accordance with the requirements of the Contract Documents.

#### **1.2 Related Work**

- A** Section 02300 Earthwork.

### **PART 2 – PRODUCTS**

#### **2.1 Submittals**

- A** Submit pipe catalog information confirming that pipe, fittings, joints, tracer wire and other materials conform to the requirements of the specifications.
- B** Submit pipe manufacturer's most current calculations regarding tensile load limitations for trenchless installations.

#### **2.2 General**

- A** Polyethylene pipe and fittings 4-6 inch diameter shall be in accordance with AWWA C906, material designation code of PE4710 and all applicable ASTM standards. Polyethylene pipe ½ -3 inch diameter shall be polyethylene pipe (not tubing) in accordance with AWWA C901, material designation code of PE4710 and all applicable ASTM standards. All pipe and fittings shall be sized to IPS specifications.
- B**
  - All polyethylene pipe shall be black, and shall contain a continuous colored stripe, at least one inch wide, located at no greater than 90 degree intervals around the pipe. Stripes shall be impregnated or molded into the pipe by the manufacturer. Application of the stripes after manufacture is not acceptable. Stripe color shall be:
    1. Potable Water Mains - blue stripes

- C** All pipe, fittings, and valve joints shall be joined using butt fusion or flanging. Flanged connections shall be made using a stub and backing ring arrangement, with the use of a suitable gasket material meeting the requirements of ASTM F477. Flanges and Mechanical Joint Adapters (MJ) shall have a minimum material designation code of PE4710 and meet all applicable AWWA and ASTM standards. Flanged and MJ adapters can be made to ASTM D3261 or machined in compliance with ASTM F2206. Flanges and MJ adapters shall have a pressure rating equal to the pipe unless otherwise specified on the project documents. Markings for molded or machined flange adapters or MJ adapters shall be per ASTM D3261. Fabricated (including machined) flange adapters shall be marked per ASTM F2206. Installation of all Flanged adapters shall follow the guidelines of the Plastics Pipe Institute TN-38.
- D** Butt fusion fittings shall be made of HDPE material with a minimum material designation code of PE4710 and all applicable ASTM standards. Molded and fabricated fittings shall have a pressure rating equal to the pipe unless otherwise specified on the project documents. All fittings shall meet the requirements of AWWA C901, C906 and all applicable ASTM standards. Markings for molded fittings shall comply with the requirements of ASTM D3261. Fabricated fitting shall be marked in accordance with ASTM F2206. Socket fittings shall meet ASTM D2683. Fabricated fittings shall be manufactured using a McElroy DataLogger to record fusion time, pressure and temperature, and shall be marked with a unique joint identifier that corresponds to the joint report. A graphic representation of the time and pressure data for all fusion joints made producing fittings shall be maintained for a minimum of five years as part of quality control and shall be available upon request of owner
- E** Electrofusion fittings shall be made of HDPE material with a minimum material designation code of PE4710 and meet ASTM F1055. Electrofusion fittings shall have a pressure rating equal to the pipe unless otherwise specified on the project documents. All electrofusion fittings shall be suitable for use as pressure conduits and have nominal burst values of four times the working pressure rating of the fitting. Marking of electrofusion fittings shall comply with the requirements of ASTM F1055. All electrofusion fittings shall be properly stored in compliance with the manufacturers' recommendation.
- F** Saddle fusion could be used to fuse branch saddles, tapping tees and other HDPE fittings onto the wall of the main pipe. Saddle fusion shall be done in accordance with ASTM F2620 or PPI TR-41 or the fitting manufacturer's recommendations. Saddle fusion joints shall be made by qualified fusion technicians. Qualification of the fusion technician shall be demonstrated by evidence of fusion training within the past two years on the equipment to be utilized on this project in accordance with ASTM F3190. Saddles shall be full circumference wide band with stainless steel band, nuts, bolts and outlet. Band shall be type 304 Stainless steel of minimum 18 gauge thickness

## **2.3 Pipe**

- A** HDPE pipe shall have SDR = 11 per ASTM D1248 Type III Class.
- B** HDPE pipe and fittings shall be sized to IPS specifications
- C** HDPE Tee fittings shall be 6" x 4" EF FPT Red Tee – Main length shall be 2 feet OAL available from Isco Industries.

## **2.4 Tracer Wire**

- A** Tracing wire shall be T.W.U., number ten gauge, stranded, insulated copper wire with 60 mil of black, cross-linked polyethylene (XLPE) insulation specifically manufactured for direct burial applications.

## **PART 3 – EXECUTION**

### **3.1 General**

- A** Not applicable

### **3.2 Handling and Storage**

- A** Handling: Pipe, fittings and accessories shall be carefully inspected before and after installation and those found defective shall be rejected. Pipe and fittings shall be free from fins and burrs. Before being placed in position, pipe, fittings, and accessories shall be cleaned, and shall be maintained in a clean condition. Proper facilities shall be provided for lowering sections of pipe into trenches. Under no circumstances shall pipe, fittings or any other material be dropped or dumped into trenches.
- B** Storage: Pipe should be stored, if possible, at the job site in unit packages provided by the manufacturer. Caution should be exercised to avoid compression damage or deformation to bell ends of the pipe. Pipe should be stored in such a way as to prevent sagging or bending and protected from exposure to direct sunlight by covering with an opaque material while permitting adequate air circulation above and around the pipe. Gaskets should be stored in a cool, dark place out of the direct rays of the sun, preferably in original cartons.

### **3.3 Excavation and Backfill**

- A** Excavation and backfill shall conform to the requirements of Section 02300 "Earthwork," and as specified herein.

### **3.4 Pipe Installation in Excavations**

- A** Pipe shall be graded in straight lines, taking care to avoid the formation of any dips or low points. Pipe shall not be laid when the conditions of excavation or weather are unsuitable. At the end of each day's work, open ends of pipe shall be closed temporarily with bulkheads.
- B** Joints shall be installed according to manufacturer's recommendations. Excavations shall be kept free of water until joints have been properly made. The maximum combined deflection at any coupling shall be in accordance with the manufacturer's recommendations.
- C** Pipe shall be cut by means of saws, power driven abrasive wheels or pipe cutters, which will produce a square cut. No wedge-type roller cutters will be permitted. After cutting, the end of the pipe shall be beveled using a beveling tool, portable type sander or abrasive disc.
- D** Cuts or gouges that reduce the wall thickness by more than 10% are not acceptable and must be cut out, discarded and the pipe rejoined.
- E** Joints shall be butt fused or flanged in accordance with the manufacturer's instructions.
- F** Pipe installed by the Contractor shall at the end of the completion of Works each day or during any suspension of works be capped with a temporary protection cap to keep the pipe free of debris and vermin.
- F** Welding of Pipe: 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.
- G** Each butt fusion shall be recorded and logged by a datalogger affixed to the fusion machine. Joint data shall be submitted as part of the As-built documentation. Alternatively each weld shall have the following recorded by the welder for record submission:
1. Weld number.
  2. Temperature of heater.
  3. Pressure applied during the weld.
  4. Time pressure was held for.
  5. Date of weld.

- H** Install required locator wire along polyethylene pipe prior to pulling through bore hole as per these specifications.  
Tracer wire shall be laid flat and securely affixed to the pipe at ten foot intervals. The wire shall be protected from damage during the works. No breaks or cuts in the tracer wire or tracer wire insulation shall be permitted. At water service saddles, the tracer wire shall not be allowed to be placed between the saddle and the water main. Except for approved spliced in connections, tracer wire shall be continuous and without splices from test box to test box.

### **3.5 Connections to Existing Pipelines**

- A** The Contractor shall locate all underground improvements and install the pipelines to the depths shown on the drawings. Where the new work is to be connected to existing pipelines, the Contractor shall make its arrangements with the serving utility well in advance of the connections, to allow adequate time for dewatering of the existing line, if necessary.
- B** All service connections to be undertaken upon completion of the laying of the new water main and after the commissioning and testing of the new pipeline.
- C** All Service connections to existing meters shall be laid perpendicular to the main and extended to the existing shut off valve attached to a meter or as directed by the Engineer. Each service, shall be tapped into the main at least 45 degrees above the horizontal. Taps should be at least 12” apart and staggered around the top section of the pipe. Tapping is to be made wet by the Contractor. Connection saddles are required to satisfy this requirement. Tracing wire is to extend to the body of any water meter.
- D** All services shall have a minimum of 18ins of cover. Place and compact 6ins of initial pipe bedding material in accordance with SECTION 02300 – EARTHWORK. All fittings including connection saddle materials are to be “no lead” or lead free.

### 3.6 Field Testing and Disinfection

- A** The Contractor shall include in the Schedule the points in time at which it intends to perform hydrostatic testing ("Hydrostatic Testing") of the installed pipe.
- B** The Contractor shall include in his project Method Statement a detailed description of how it intends to conduct the hydrostatic tests.
- C** It is expected that it is not practical to test the pipe on completion of the installation since the pipe shall be installed under major carriageways. Where pipe is laid in an open trench, it is expected that the Contractor will excavate a section of trench, lay in the pipe, hydro test it, then backfill and reinstate the trench. **In the case where the pipe is to be installed by pipe bursting the contractor will pressure test the pipe prior to placing in inside the burst existing pipe.**
- D** Maximum length of pipe to be tested at any time shall be no more than 500 feet.
- E** The Contractor is expected to leave the entire un-tested section exposed for the hydrostatic tests.
- F** For HDPE mains, fill the main slowly ensuring fill rate does not exceed capacity of air release devices. Once air has been expelled from the system, gradually raise the pressure to Pipes to 150 psi gauge pressure, after which time the hydrostatic test pump shall be shut off and the pipe sealed. The allowable test pressure shall be verified and confirmed with the Employer's Representative prior to performing any tests.
- G** The pipe shall maintain the pressure for a minimum of 4 hours without the need for the addition of makeup water as defined in the Hydrostatic Test procedure. The test is passed and considered acceptable if the main pressure does not drop more than 5% (7.5 psi) during the four hour period.
- H** The Employer's Representative shall be notified at least 48 hours in advance of the intent to perform a hydrostatic test and may elect to be present for the duration of the test.
- I** All joints in the tested section shall be inspected at least twice during the test period.

- J** In the event that the tested section fails the hydrostatic test, the test pressure shall be maintained by operating the pump until the leak is found.
- K** On completion of the repair of any leaks, the pipe shall be retested, until it has passed the test.
- L** All HDPE pipes in the Scope of Works noted above shall be subjected to Hydrostatic Testing.
- M** After Hydrostatic Testing the pipe shall be drained sufficiently to resume the Works.

### **3.7 Pipe Line Vents and Sample Points**

- A** At all high points in the pipework, the Contractor shall install a venting valve and sampling valve.
- B** All vent valves and sampling valves shall be fully accessible and at the discretion of the Employer's Representative shall require vaults suitable for full access to the pipeline.

### **3.8 Thrust Blocks**

- A** All thrust blocks shall be installed at the direction of the Employer's Representative. No concrete supports or thrust blocks shall be buried without the Employer's Representatives approval.
- B** In all cases, thrust blocks shall be completely buried and not be visible once the Works are complete.

**\*\*\* END OF SECTION 015670 \*\*\***

## **SECTION 15674 – WATER MAIN REPLACEMENT BY PIPE BURSTING**

### **PART 1 - GENERAL**

#### **1.1 Requirements**

- A** The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor required to complete the work as indicated on the Drawings and specified herein.
- B** This Section covers furnishing and installing all labor, materials and equipment required for the installation of a six inch diameter HDPE pipe by pulling the new pipe inside a burst six inch diameter PVC pipe.

#### **1.2 Related Work**

- A** Section 02300 Earthwork.

### **PART 2 – PRODUCTS**

#### **2.1 General**

- A** The pipe bursting equipment shall consist of a pipe bursting unit that is capable of generating sufficient force to burst and compact the existing pipe fragments into the surrounding soil while pulling in the replacement pipe and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient materials and spare parts on hand to maintain the system in good working order for the duration of the project.
- B** Pipe Rollers – pipe rollers, if used, shall be of sufficient size to fully support the weight of the pipe while being hydro-tested and during pull back operations. Sufficient number of rollers shall be used to prevent excess sagging of pipe.
- C** A data logger shall be used to record and document all butt fusion process. The data logger must be compatible and outfitted with an electronic data recording device. A digital report or printout for all fusion joints made that complies with, but is not limited to, ASTM F3124 must be delivered to the OWNER upon request and at the completion of the project. All hydraulic fusion must be recorded and able to produce a graphic representation of the time and pressure data. All manual fusion must be recorded with, but not limited to, Joint ID, Operator Name and ID, Pipe information, and Heater Plate Temperature. The recording unit shall be a DataLogger 6 as manufactured by McElroy Manufacturing, Inc, or newer model or approved equivalent.



## **PART 3 – EXECUTION**

### **3.1 General**

- A** During Pipe bursting operations all unqualified persons are to remain clear of the working area.
- B** Ensure all safety guards are in place and in good repair prior to commencing a pipe burst

### **3.2 Handling and Storage**

- A** Handling: All pipe bursting equipment and accessories shall be carefully inspected before and after installation and those found defective shall not be used.

### **3.3 Safety**

- A** The contractor shall carry out operations in strict accordance with all applicable OSHA Standards. All pipe bursting operations must be carried out in accordance with recognized safety standards involving high tensile strain on cables and pipes. Particular attention is drawn to those safety requirements involving work entry into confined spaces. It shall be the contractor's responsibility to familiarize all its employees with OSHA Standards and regulations pertaining to all aspects of the work.

### **3.4 Pipe Bursting Operations**

- A** The location and number of insertion and receiving excavations shall be planned by the contractor and submitted in writing for approval by the Engineer 10 days (or as determined by the Engineer) prior to excavation. If for any section it is determined that the construction site access is limited or restrictions on street and lane blockage is restricted or prohibited the Engineer will decide on alternative open trench installation.
- B** Pit Location and Excavation
  1. Machine pit and insertion pit locations shall be placed such that excavations are minimized. This may be accomplished by placing either or both of these pits at the point of service connection, or valve location.
  2. Initial burst length shall be 200 feet (+/-) 50 feet in length for the first burst to determine soil pipe friction and specific site conditions that may impact bursting lengths. After site specific factors are evaluated, it is expected longer burst runs up to 500ft will be performed.
  3. All pits shall be shored to ensure worker safety per OSHA or other local regulations.

4. All pits shall be roped off and or covered when not active per OSHA or local regulations to ensure public safety.
5. Traffic control shall be accommodated for by Contractor as per the Contract specifications. Safe traffic passage around pit excavations that are located in the highway shall meet the Highways Department requirements. Parking of related employee vehicles, trucks and auxiliary and equipment shall be such that congestion and traffic delays are minimized.
6. Before any excavation, it will be the responsibility of the contractor to check with the various utility companies and determine the location of existing utilities in the vicinity of the work area. The contractor at no cost to the Ministry, if required, will arrange temporary construction easement and/or right-of-way areas.
7. Utilities intersecting the existing pipe shall be exposed using an excavation technique appropriate for the utility. As a general rule, both horizontal and vertical distance between the pipe to be burst and the existing adjacent pipe should be at least 10 inches. If adjacent utilities are within this area, or the adjacent utility location is unknown, the excavation (Utility Crossing Pit) shall be excavated prior to commencement of bursting.
8. Damage to utilities and the resulting repair, temporary service cost, etc., shall be borne by the contractor. Access pits shall be backfilled in accordance with the appropriate specifications

**C**        **To minimize customer supply disruption each section to be pipe burst shall be completed as a discrete operation with the new pipe reconnected to the existing pipe at the conclusion of each pull. It is envisaged that a single pull will be carried out each week to allow the system to be refilled and allow customers to take water for a minimum of three days in each week.**

**D**        Prior to the commencement of pipe bursting operations a CCTV camera will be used to provide a video survey of the existing pipe internal condition together with identifying any possible obstructions or water service connections to the existing pipeline

**E**        Pipe Bursting Machine Location and Shoring: Bursting machines of the static pull style require preparation and planning for the machine pit that they are to operate from.

1. Forward face of the machine pit or the surface that the machine bears against while pulling back, shall be shored in a safe manner. This shoring shall maintain perpendicular burst machine alignment to the pipe during pullback. Any loss of perpendicular alignment during pull shall result in stopping of the bursting process and improvement of the forward face shoring. Any damage resulting from improperly shored excavations shall be corrected to the satisfaction of the Engineer with no compensation due to the contractor.
2. Rearward shoring shall be provided to react rod thrust forces during payout. While these forces are substantially lower than pullback forces, shoring must be used to stabilize the bursting machine so as to maintain

perpendicular alignment of the machine during payout. The weight of the machine cannot be depended on to react thrust forces. Existing pipe at rear face of pit may only be utilized for rearward shoring if scheduled for replacement.

3. Pipe face for PVC shall be cut off using a saw or similar device to produce a square face for the bursting machine forward face to bear against. Final separation of PVC pipe with a wedge may provide a clean face. Existing pipe shall be removed in sufficient length to accommodate pipe burst machine.
4. Pipe burst machine must be positioned so as to have rod centerline at approximate centerline of existing pipe.
5. Rod box delivery and removal between temporary rod storage location and burst pit must be accommodated for with appropriate lifting equipment and techniques. Additionally, movement and or placement of lifting machine must be included in traffic control plans.

## **F** Rod Payout Operation

1. Rod payout is the process of assembling a string of rods and pushing them in a step wise manner from machine pit, through the interior of the existing pipe to insertion pit.
2. Lifting of rod boxes into or out of the machine pit shall be performed per Health & Safety requirements or other applicable requirements with respect to equipment and method.
3. Threads shall be cleaned of foreign matter before assembly.
4. Counting of rods during payout, or quantity of rods per box shall be monitored such that the equipment operator is aware of the distance between the burst machine and the lead end of the rod string.
5. Thrust force should be monitored by the operator. Should an unexpected sudden and significant increase in thrust force be experienced, the process shall be halted. The operator or Contractor shall review the results with the Engineer's Representative to remedy in an attempt to determine if offsets, valves or other features or obstruction exist that may cause the rod string to leave the pipe.
  - a. Front end of the rod string should be located by distance from the machine pit. Location should be painted and compared to as built documents.
  - b. Appropriate action should be taken to remedy the cause. This action may include an additional pit at the obstruction to determine the cause, and remove or accommodate for the obstruction. The Contractor shall follow the process provided in the approved Risk Management Plan.
6. Existing pipe in the insertion pit shall be cut or broken prior to arrival of the rod string. Sufficient length shall be removed so as to allow the burst tooling to enter the existing pipe and bend the product within the allowable radius specified by the pipe manufacturer. The second end of the existing pipe in

the insertion pit shall be positioned or worked so as not to damage the product pipe as it travels through the insertion pit.

7. Workmen shall not enter the insertion pit when the rod string is nearing the pit. A workman shall be in visual or radio contact with the burst machine operator so as to have the payout halted in a position that allows attachment of the burst tooling. Burst tooling style shall be chosen based on anticipated properties of existing pipe and existing pipe repairs as determined by the prior CCTV survey.

## **G** Tooling and Attachment

1. The new polyethylene pipe shall be moved into position for attachment to the rod string. Appropriate traffic or pedestrian control will be exercised along the path of the polyethylene pipe.
2. The lead and second rod shall be painted orange or yellow so as to give notice to the burst machine operator position of the burst tooling.
3. Attachment of the burst tooling to the rod shall be through the use of removable pin joint allowing the tooling to pivot to the rod axis.
4. Burst head diameter will be on average 15% over size to the outside diameter of the new polyethylene pipe. Actual size is left to the discretion of the Contractor. A greater outside diameter allows for reduced pipe friction but increases bursting forces with increased soil displacement.
5. Attachment of the polyethylene pipe to the burst tooling shall be with a swivel that permits rotation to relieve torsional (twist) stress on the polyethylene pipe.
6. Burst head shall slide on the rod string such that the rear of the burst head overlaps the forward end of the polyethylene pipe to eliminate the chance of damage to the polyethylene pipe.

## **H** Pullback Operation

1. The burst machine operator will begin the pullback with the approval of the insertion pit observer. Progress will be made at a slow rate until the observer sees the burst tooling has completely entered the existing pipe.
2. As the burst tooling nears any utility crossing pit, an observer in radio or visual contact with the burst machine operator will monitor and control movement of the burst tooling past the utility.
3. Should the forward shoring upon which the bursting machine bears yield sufficiently to bring the bursting machine out of square to the existing pipe, the shoring will be reworked

## **I** Tooling Removal

1. Burst machine operator shall note rod count and anticipate entry of painted rods into the burst pit. As the pin joint connection nears the burst machine

forward face, the burst is to be halted. Load on the forward face is relieved by reversing the rod direction slightly.

2. The burst machine shore plate is to be removed, allowing the tooling to enter a cage or the hull of the burst machine. The tooling string will be disassembled and removed, in sections if necessary until the product pipe face has been pulled beyond the face of the machine pit. The distance past the face of the machine pit shall be at the discretion of the Contractor anticipating the length required for connection/fusing.

**J** All open excavations shall be kept secure at all times by the use of barricades with appropriate lights and signs, construction tape, covering with steel plates, etc., or as directed by the Engineer.

**G** One or more receiving pits shall be excavated at the end(s) of the existing water main to be replaced or at appropriate points within the length of the existing pipe. Pit shall be centered over the existing pipe.

**H** The number of pits for machine and pipe insertion shall be the minimum necessary to most efficiently accomplish the work. The contractor shall give consideration to the use of excavation required for other purposes such as for water service reconnections and inline valve replacement.

**\*\*\* END OF SECTION 15674 \*\*\***

## **SECTION 15675 – RESILIENT-SEATED GATE VALVE**

### **PART 1 - GENERAL**

#### **1.1 Requirements**

- A** The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor required to complete the work as indicated on the Drawings and specified herein.
- B** This Section covers furnishing and installing all labor, materials and equipment required for the installation of two inch through four inch resilient-seated gate valves, all in accordance with the details shown on the plans and requirements of these specifications. Metal-sealed gate valves shall not be used.

#### **1.2 Related Work**

- A** Section 02300 Earthwork.

### **PART 2 – PRODUCTS**

#### **2.1 General**

- A** Pressure Class. Design pressure for resilient-seated gate valves shall be 200 psi for diameters up to 12 inches. Valves for operating pressures other than the above shall be as specified on the plans or in the special specifications.
- B** Component Parts. Unless otherwise provided herein, component parts for resilient seated gate valves shall be in accordance with AWWA C509 and C515. All components of resilient seated valves shall be tested and certified by an approved testing laboratory located in the United States. All parts shall be readily available.
- (1) The valve manufacturer's name and valve model number, size, and year of manufacture shall be cast on the body.
  - (2) The resilient seat shall be fastened to the gate by use of either mechanical, stainless steel fasteners, or vulcanizing methods in accordance with the requirements of ASTM D429 and the manufacturer's recommended procedures.
  - (3) Resilient-seated gate valves shall be provided with a two inch square operating nut. When specified on the plans, a hand wheel shall be used. The direction to open the valve shall be to the left (e.g. counter clockwise). A direction indication for opening the valve shall be cast on the operating nut. Position indicators shall not be required unless specified on the plans or in the special specifications. Valves must have a minimum of 2 turns per inch of diameter.

- (4) All interior ferrous surfaces exposed to fluid flow, including the gate, shall be factory coated with a thermo-setting or fusion epoxy coating. The coating shall be safe for potable water systems in accordance with AWWA C550. The minimum coating thickness shall
- (5) The wedge shall be manufactured of ductile iron and fully encapsulated in a molded EPDM resilient material resistant to heat, corrosion, hydrolysis, tuberculation, abrasion and bacteria and comply with ASTM D2000.
- (6) All exterior ferrous surfaces, including nuts and bolts, shall be field coated with a fast curing sealant from the approved materials list in Appendix A for this use. The application of the sealant shall be accordance with the manufacturer's recommendations. Nuts and bolts may be manufactured of ASTM type 304 or 316 stainless steel in lieu of being coated.
- (7) All internal parts shall be accessible for repair or replacement without removing the valve body from the pressure line. The stem shall be sealed by use of a minimum of two O rings. The O-ring(s) shall be located above the stem collar. O-rings shall be replaceable under pressure with the valve in the open position.
- (8) The diameter of the internal passageway shall have a nominal inside dimension equal to the valve size or larger. The valve shall provide an unobstructed waterway in the full open position making the valve applicable for tapping applications.
- (9) Valve stem shall be a high strength, low zinc bronze, 40,000 psi yield strength, 70,000 psi tensile strength, with not less than ten percent elongation. Stem bronze shall conform to the requirements of Section 2 of AWWA C509.
- (10) Valve ends shall be mechanical joint, conforming to AWWA C110, unless otherwise specified in the Contract Documents. Connection bolts and nuts shall be manufactured of cor-ten steel or approved equal in accordance with ASTM A242.
- (11) Where specified in the Contract Document, valve ends shall be flanged in accordance with AWWA C110 for 125/150 lb flanges and ASME/ANSI B16.1 FOR 250/300 lb flanges. Connection bolts and washers shall be manufactured of 316 stainless steel and nuts shall be manufactured of 316 stainless steel with a Xylan coating or approved equal. No antiseize compound shall be applied on flanged bolts.

## **PART 3 – EXECUTION**

### **3.1 General**

**A** Not applicable

### **3.2 Handling and Storage**

**A** Handling: Valves, fittings and accessories shall be carefully inspected before and after installation and those found defective shall be rejected. Valves and fittings shall be free from fins and burrs. Before being placed in position, valve, fittings, and accessories shall be cleaned, and shall be maintained in a clean condition. Proper facilities shall be provided for lowering valves into trenches. Under no circumstances shall a valve, fittings or any other material be dropped or dumped into trenches.

**B** Storage: Valves should be stored, if possible, at the job site in unit packages provided by the manufacturer. Caution should be exercised to avoid compression damage or deformation to flange faces of the valve. Gaskets should be stored in a cool, dark place out of the direct rays of the sun, preferably in original cartons.

### **3.3 Installation**

**A** Valves shall be installed in accordance with Section 209 and the valve manufacturer's recommendations. All fittings, valves, flexible couplings and repair clamps shall be encased with a 10 mil polyethylene in accordance with AWWA C105 Method C.

**B** All personnel of the contractor or subcontractor shall be skilled and knowledgeable with regard to the installation procedures for the valves and appurtenances being installed.

**C** Prior to installation in the trench, valves shall be fully opened and closed by the contractor to check the operation to ensure that the valve fully seats. A record shall be made of the number of turns required to fully open or close the valve. This record shall be included on the as-built plans. The inside of the valve shall be thoroughly cleaned prior to valve installation

**\*\*\* END OF SECTION 015675 \*\*\***



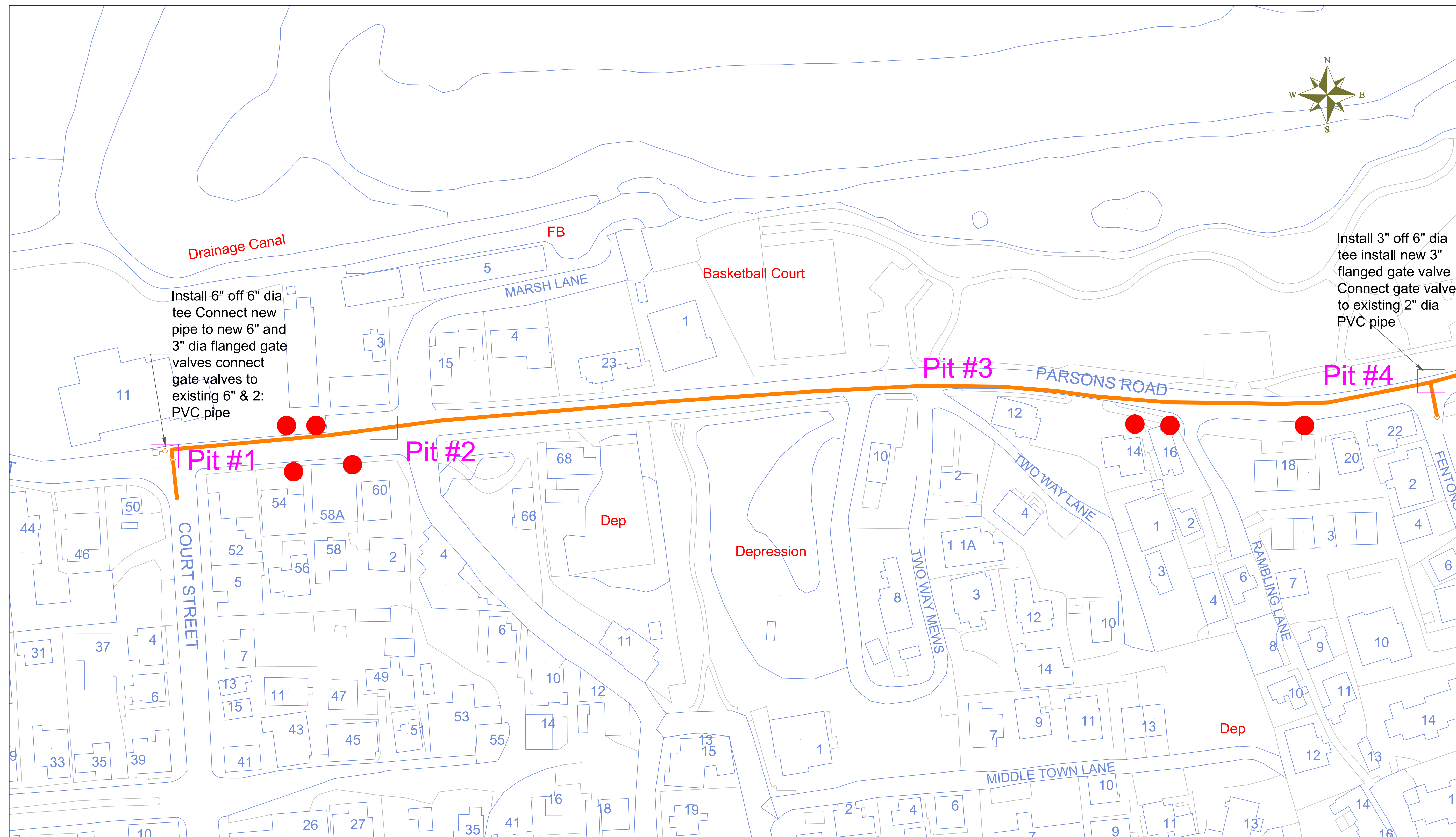
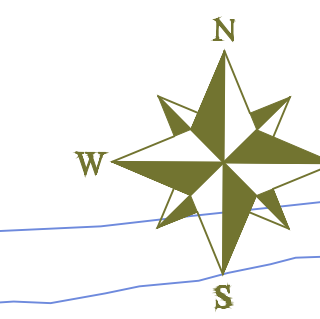
# ANNEX G – Drawings

Drawing No. PR01 – Pipeline Route Sheet 1

Drawing No. PR02 – Pipeline Route Sheet 2

Drawing No. PR03 – Pipeline Route Sheet 3

Drawing No. PR04 – Pipeline Details



ISSUED FOR: TENDER DEC-2021

AMENDMENTS:

NO	REVISION	BY	APP	DATE

SCALE: 1-500 Sheet Size 24" x 36"

SURVEY  
PREPARED BY: DATE:

DESIGN  
PREPARED BY: DATE: 11/5/2021  
CHECKED BY: DATE:

DRAWING  
PREPARED BY: DATE: 11/5/2021  
CHECKED BY: DATE:

APPROVED BY: DATE: 11/5/2021  
KC

PROJECT NUMBER:

PROJECT NAME:

PARSONS ROAD  
WATERMAIN  
REPLACEMENT

SHEET TITLE:

PIPELINE-ROUTE  
SHEET 1

SHEET NUMBER: PR01 REVISION



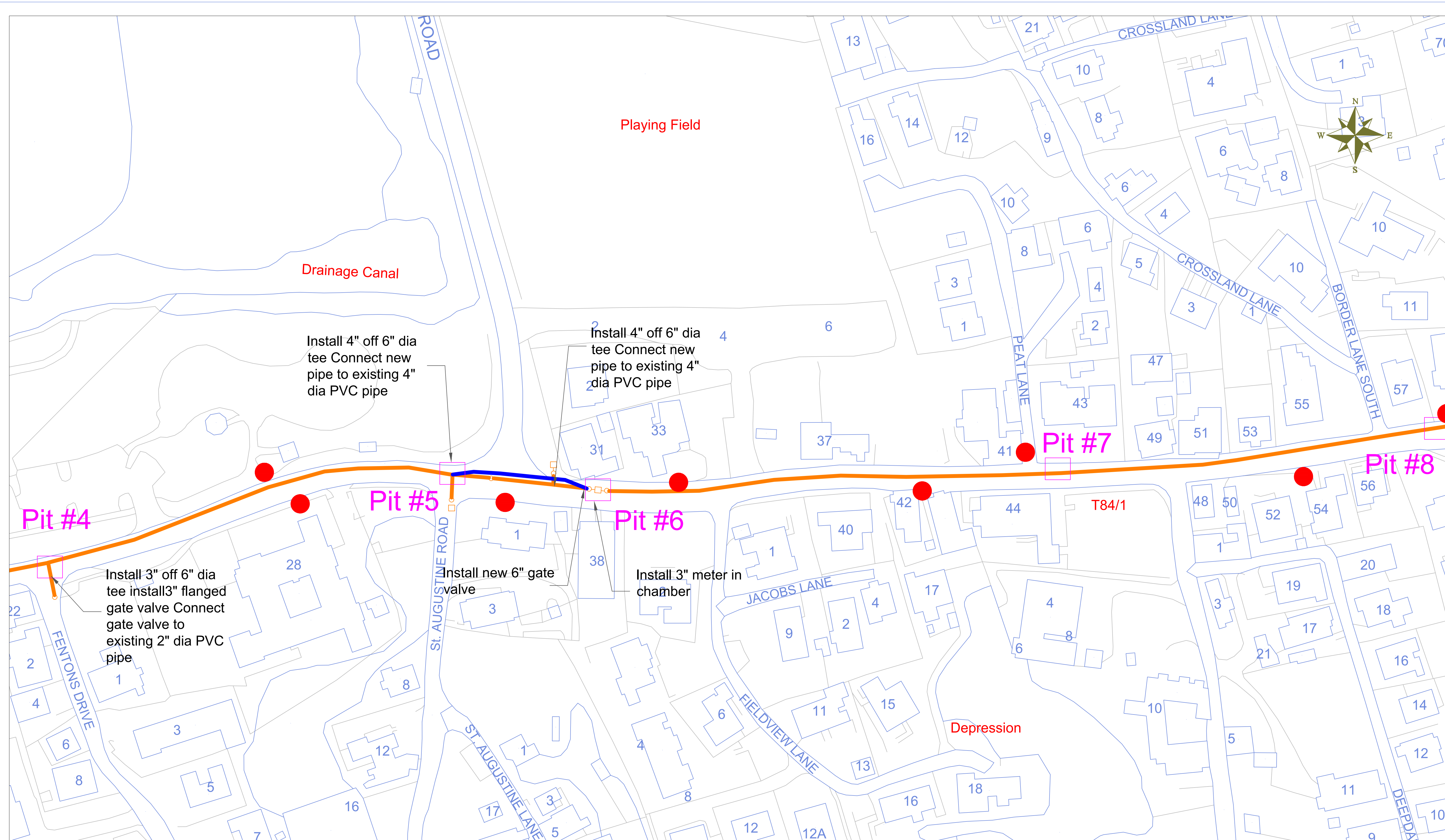
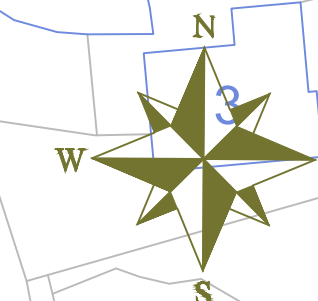
PIPELINE PLAN

1-500

**KEY**

- Access Pit
- Existing Pipeline
- Existing Valve
- Existing Meter Chamber
- Existing Service Connection





**KEY**

- Access Pit
- Existing Pipeline
- Existing Valve
- Existing Meter Chamber
- Existing Service Connection
- New Pipeline Laid in trench

PIPELINE PLAN  
1-500

ISSUED FOR: TENDER NOV-2021

AMENDMENTS:

NO	REVISION	BY	APP	DATE

SCALE: 1-500 Sheet Size 24" x 36"

SURVEY  
PREPARED BY: DATE:

DESIGN  
PREPARED BY: DATE: 11/5/2021  
CHECKED BY: DATE:

DRAWING  
PREPARED BY: DATE: 11/5/2021  
CHECKED BY: DATE:

APPROVED BY: DATE: 11/5/2021  
KC

PROJECT NUMBER:

PROJECT NAME:

PARSONS ROAD  
WATERMAIN  
REPLACEMENT

SHEET TITLE:

PIPELINE-ROUTE

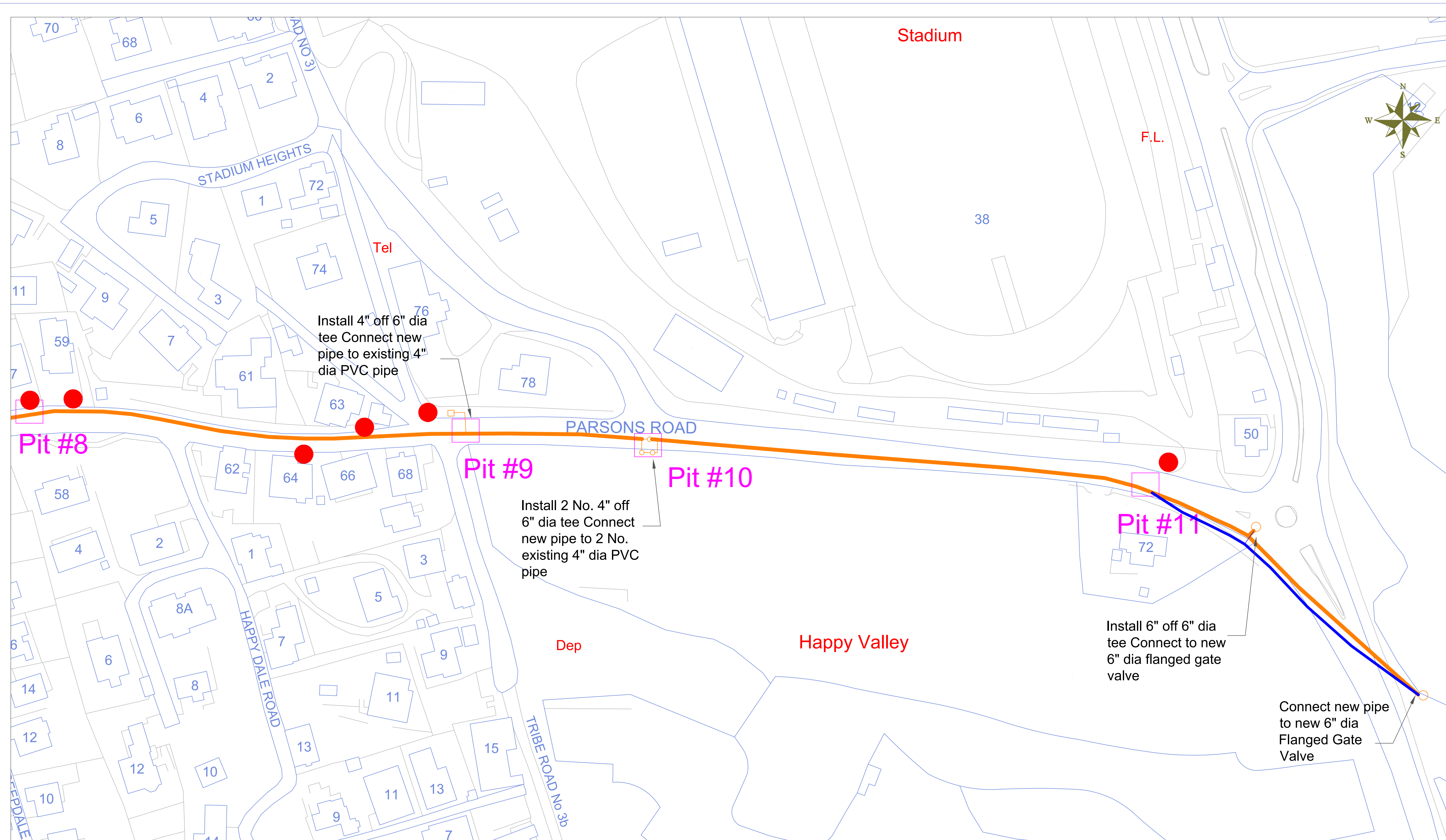
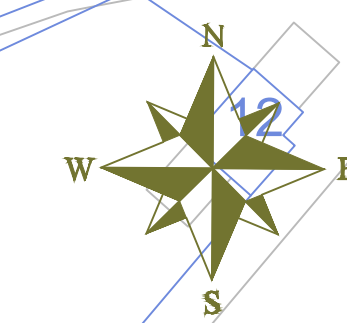
SHEET 2

SHEET NUMBER: REVISION

PR02







ISSUED FOR: TENDER NOV-2021

AMENDMENTS:

NO	REVISION	BY	APP	DATE

SCALE: NTS Sheet Size 24" x 36"

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DESIGN  
PREPARED BY: DATE: 5/11/2021  
CHECKED BY: DATE:

DRAWING  
PREPARED BY: DATE: 5/11/2021  
CHECKED BY: DATE:

APPROVED BY: DATE: 5/11/2021  
KC

PROJECT NUMBER:

PROJECT NAME:

PARSONS ROAD  
WATERMAIN  
REPLACEMENT

SHEET TITLE:  
PIPELINE-ROUTE  
SHEET 3

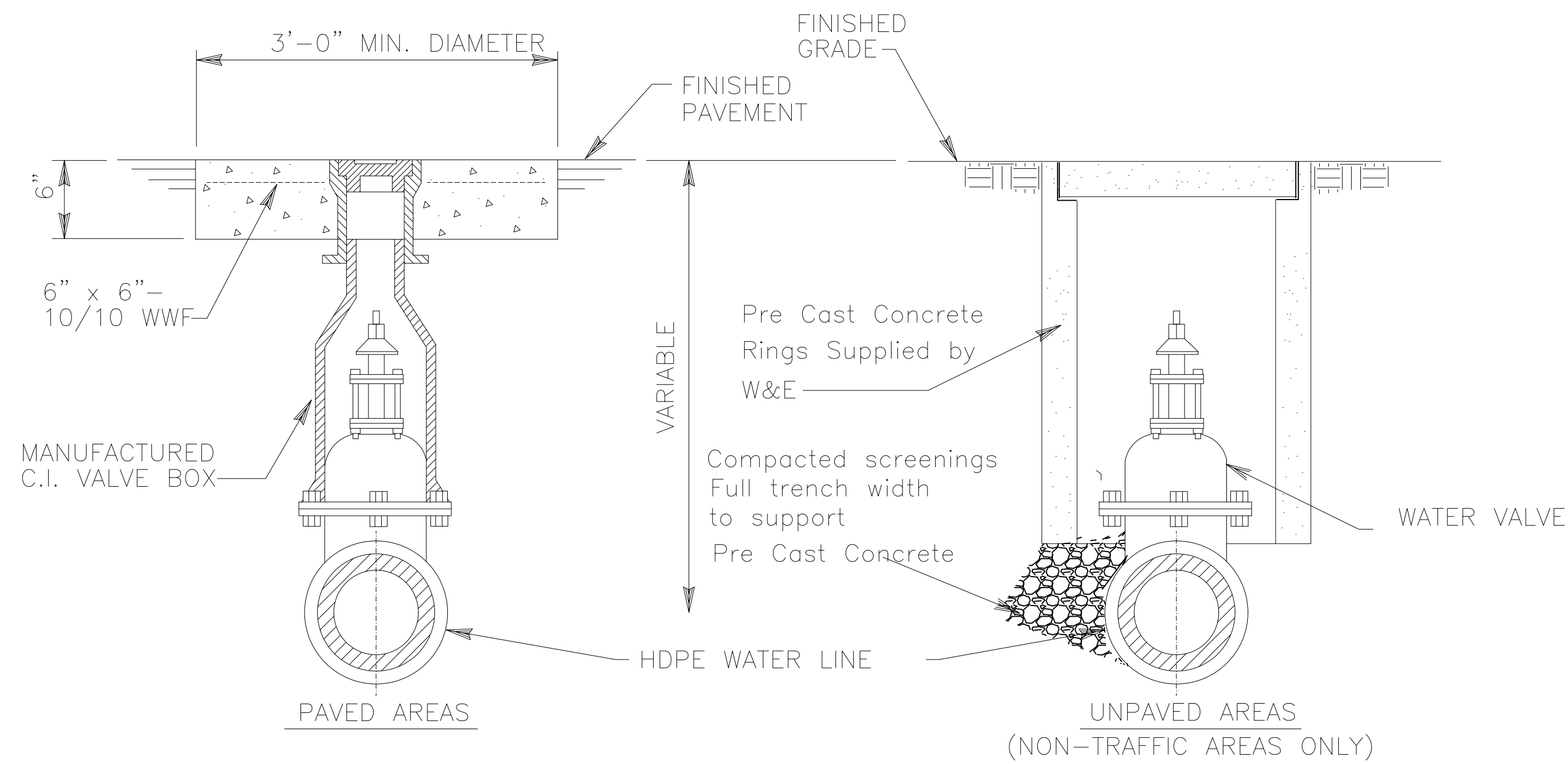
SHEET NUMBER: PR03 REVISION

**KEY**

- Access Pit
- Existing Pipeline
- Existing Valve
- Existing Meter Chamber
- Existing Service Connection
- New Pipeline Laid in trench

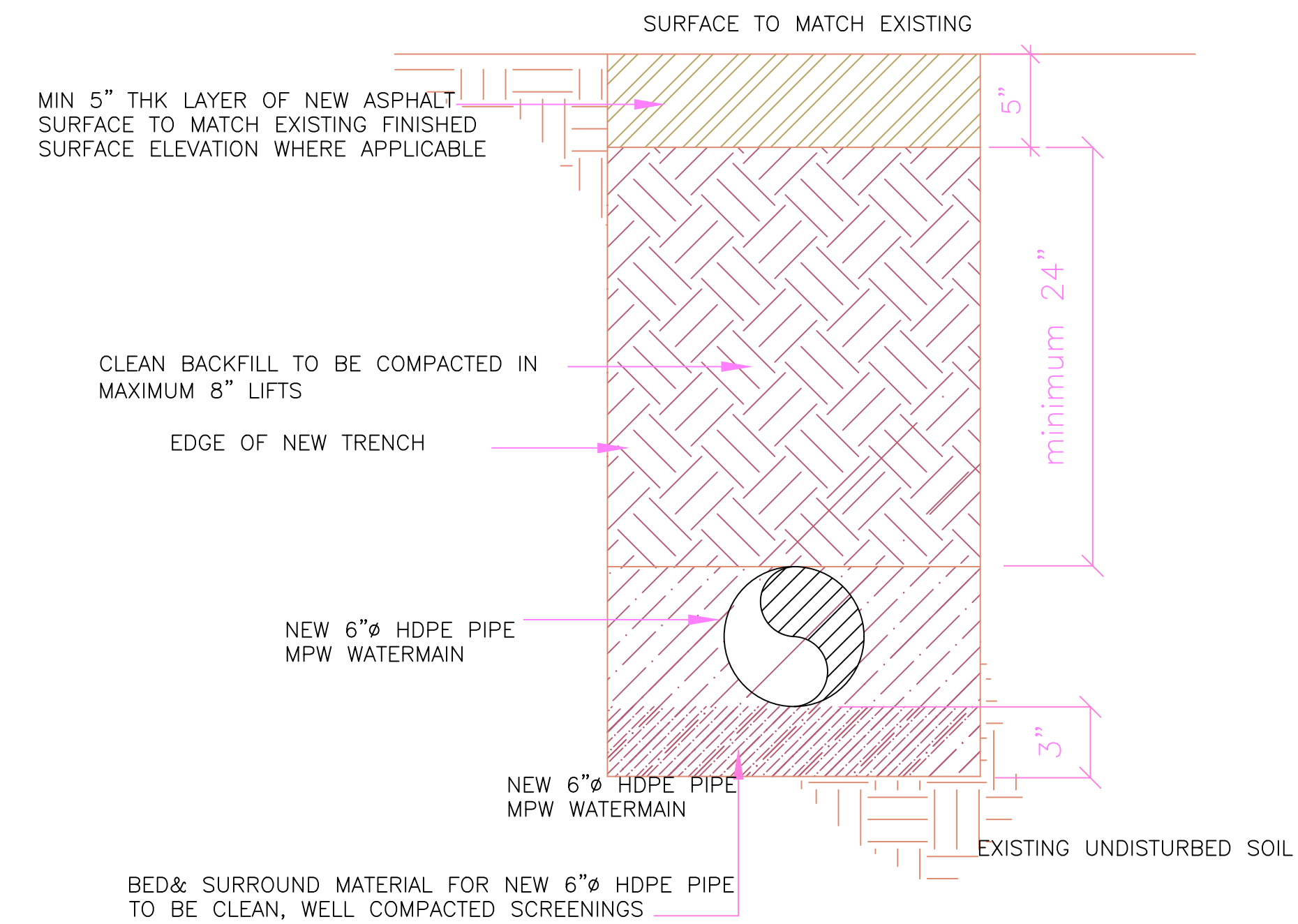
PIPELINE PLAN  
1-500





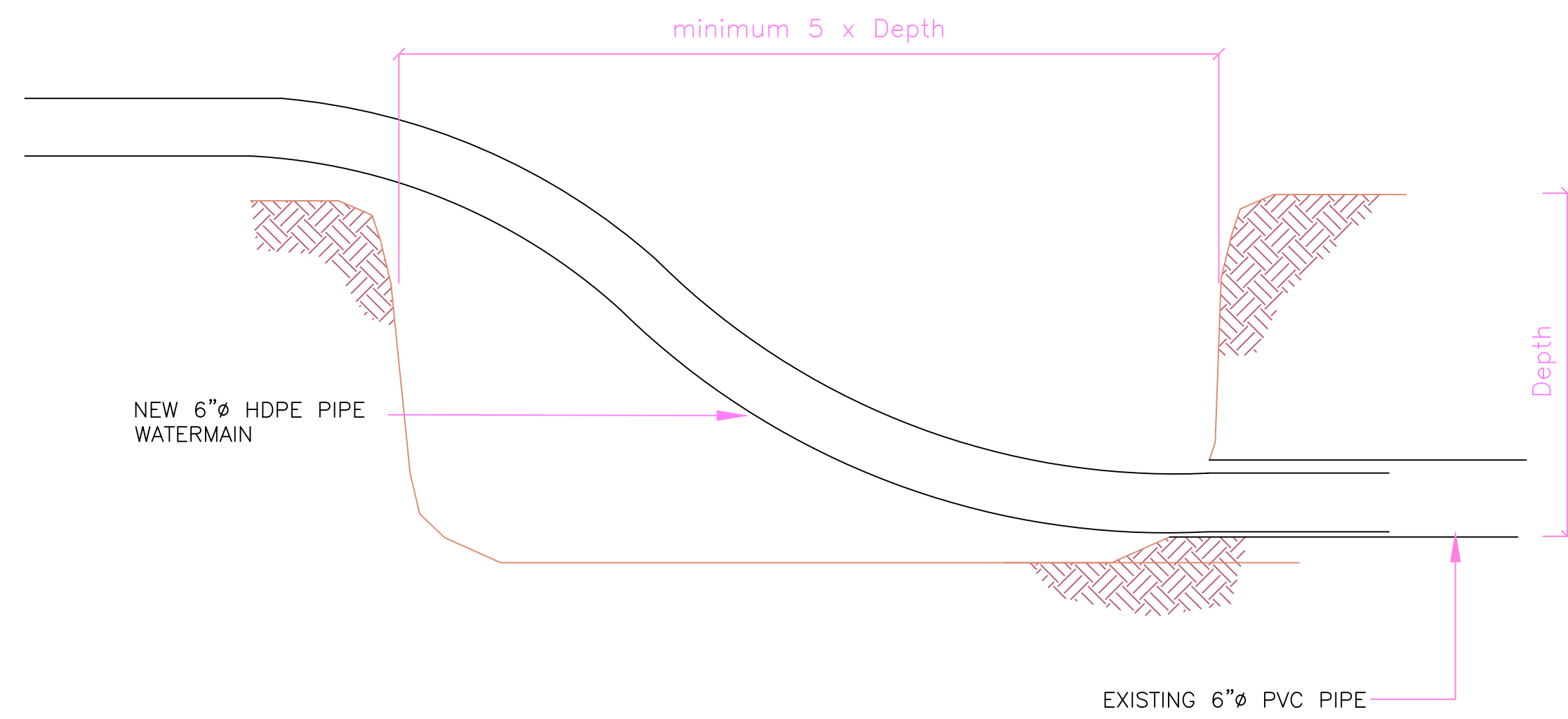
### VALVE BOX DETAILS

N.T.S.

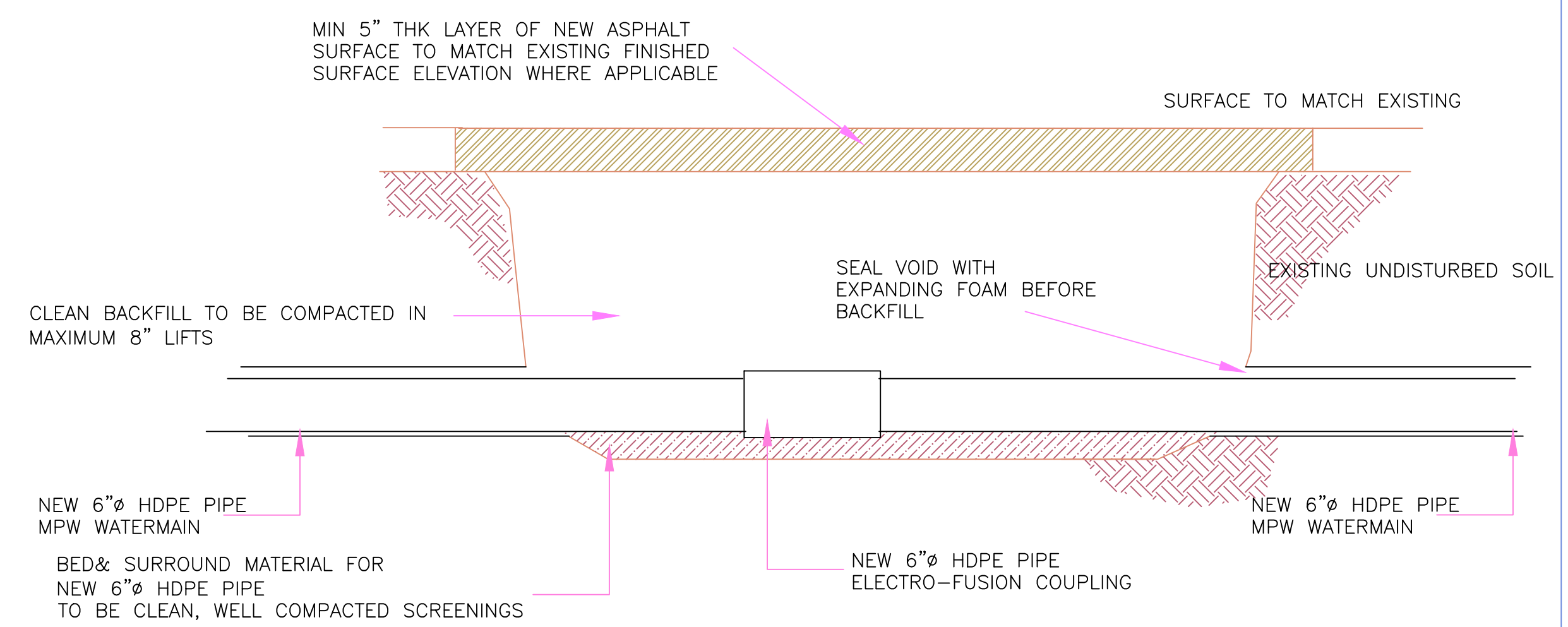


### CROSS-SECTION OF OPEN TRENCH INSTALL

N.T.S.

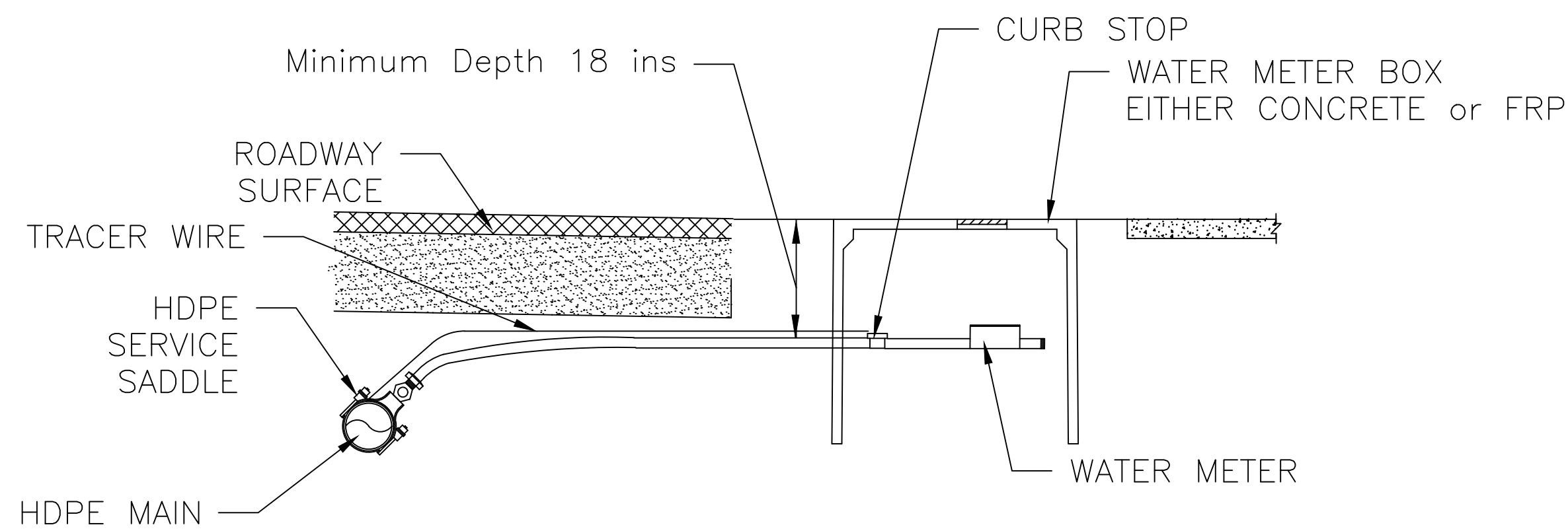


### PIPE BURST FEED PIT



### NEW PIPE CONNECTION IN PIPE BURST FEED PIT

N.T.S.



### SERVICE CONNECTION DETAIL

N.T.S.

AMENDMENTS:			
NO	REVISION	BY	APP DATE