



GOVERNMENT OF BERMUDA

Ministry of Public Works

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Department of Works and Engineering

**SOUTH DISTRIBUTION WATER MAIN REPLACEMENT  
FORT HILL ROAD, DEVONSHIRE**

**Tender Package**

**File No.:41/188/1/75**

***Date Issued: March 13<sup>th</sup>, 2017***



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## Instructions to Bidders

### Part 1 GENERAL

#### 1.1 PUBLIC ACCESS TO INFORMATION:

- .1 Any information collected or used by or on behalf of the Government of Bermuda ("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 under the Act. The person who gives information to the Government in response to this solicitation document consents to the collection and use of the information and waives any right to challenge any decision made by the Government to disclose the information. Any questions regarding the collection, use, or disclosure of the information should be directed to the public authority that issued this solicitation document.

#### 1.2 Description of Works

- .1 The *Contractor* will undertake responsibility for excavation, trenching, supply and installation of a 6- inch water main from the edge of the grass verge near building 37 Headquarters Hill, Devonshire across the grass verge of police car parking lot heading in the west-north direction continuing to the end of Fort Hill Road. (See Exhibit "D" Drawing. Along the route, one connection is required. Excavation trenching and reinstatement for a 1" diameter main is required at point B to service the Police Club building 32 Headquarters Hill, Devonshire. .
- .2 The *Contractor* will be responsible for reinstatement of the trenches and the road surface. The required 6" mains pipe is to be installed and operational immediately once works have been completed.
- .3 The *Contractor* is to install the new main in parallel to the current water line to allow a smooth and uninterrupted transition from the existing supply to the new supply.
- .4 The *Contractor's* shall be responsible for the transport of all materials to storage on site or off site.
- .5 This work involves the supply of all pipe materials and fittings required to install the new water main. Connection to the remaining distribution mains will be carried out by others. The work will include all necessary trenching and earthworks to place the pipe a minimum depth of two (2) feet below final grade and reinstatement of all existing surface.

#### 1.3 Time

- .1 The Tenders submission must be delivered no later than 31<sup>st</sup> March, 2017 at 3:00 pm AST.
- .2 Late submission will not be considered.
- .3 The Key dates for the Procurement Process are as follows:



Request for Tenders issued	March 13,, 2017
Pre-Bid Site Visit	March 20,2017
Notice of Intent to Bid	March 24, 2017
Deadline for Written Clarifications and Questions from Bidders (Clause 2.2.2)	March 24, 2017
Government responding and issuing Q and A, Addenda (if applicable) (Clause 2.2.3)	March 27, 2017
Deadline for Tenders Submissions (Clause 1.3.1)	March 31, 2017, 3:00 PM AST time
Evaluation of Tenders (Part 5)	April 3 2017 to April 5, 2017
Contract Award (Part 6)	May 1, 2017 (estimated)
Completion of Work by successful bidder	May 31, 2017 (estimated)
*All times Atlantic Standard Time( AST)	

- .4 The Government may change the timeline for the Procurement Process without prior notice, and will notify bidders in writing promptly of any change by addenda, that will be posted on <https://www.gov.bm/procurement-notice> site.

## 1.4 Eligibility and Qualification Requirements

The Bidder and/or the Bidder's sub-contractors (*hereinafter referred to as the Bidder*) must meet certain requirements, specified herein, in order to be considered as acceptable to provide a Bid or the project. Bidders, 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 tenders will not be accepted.

- .1 The Bidder must have a minimum of 5 years' experience in the provision of contracting services to provide pipeline installation works
- .2 In addition to the experience of the firm or firms as noted above, the experience of the key individuals responsible for the project must meet the following criteria:
- .1 Contractor's Project Manager: 5 years of experience in trenching pipeline installation and road works
- .3 The Bidder shall submit with his completed tender all appropriate documentation in order to demonstrate the necessary experience and expertise as noted in Clauses 1.4.2, 1.4.3, 1.4.5, and 1.4.6. 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 experience of any sub-contractors.

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

- .4 The Certificate of Confirmation of Non-Collusion is a mandatory requirement from all bidders. Any forms of agreement submitted which do not include a signed copy of this 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 process, the Contractors 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 Contractors and/or any party involved in the matter. False submissions may also exclude the bidder, and any other person or company involved in collusion, from involvement in future contracts with the Government of Bermuda.

- .5 The bidder shall submit their health and safety records for the last three years of reporting.
- .6 The bidders shall submit listings of plant and equipment available for use in this project
- .7 The bidder shall submit reference supporting their performance to time and budget constraints on previous project. Particular reference should be made to project of similar nature.
- .8 The bidder shall provide employee data that shows the proportion of Bermudian Employed and their commitment to training of all their employees in the field of work.
- .9 All corporate tenderers must include, with their tenders, a copy of the company's Certificate of Incorporation as evidence of the fact that the company is an existing registered company at the date of tender. Failure to provide the certificate of incorporation will render the tender void.
- .4 Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements:
  - .1 The Tender Documents, and in the case of a successful Bidder, the Form of Agreement shall be signed so as to be legally binding on all partners;
  - .2 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;
  - .3 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;
  - .4 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 .2 above as well as in the Form of Tender and the Form of Agreement (in the case of a successful Bidder); and
  - .5 A copy of the Agreement entered into by the joint venture partners shall be submitted with the Tender.
- .5 All corporate Bidders must include, with their tenders, a copy of the company's Certificate of Incorporation as evidence of the fact that the company is an existing registered company at the date of tender. Failure to provide the certificate of incorporation will render the tender void.

## 1.5 Cost of Tendering

- .1 The Bidder shall bear all costs associated with the preparation and submission of his Tender and the Government will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the Tendering process.



## 1.6 Pre-Bid Site Tour Meeting

- .1 All Bidders or their official representative(s) on their own cost and responsibility are advised to attend the Pre-Bid meeting and Site tour to examine the site of the proposed work, so as to be fully acquainted with existing conditions and limitations. A site visit for all bidders has been held at **10:00 a.m. AST 20th March 2017**. Meet point is at the entrance to the Police Club building, 32 Headquarters Hill, Devonshire.
- .2 The Government reserves the right to refuse any request for individual conducted site tours, at any other time than that identified in this tender.
- .3 The Bidders or their official representative must register their presence with the Project Manager at the start of the meeting stating the name of the company they represent their email address, and phone number.
- .4 The purpose of the meeting will be to visually review the site conditions, clarify issues and to answer questions on any matter that may be raised at that stage.
- .5 Minutes of the meeting, including copies of the questions raised and responses given, will be furnished expeditiously to Bidders. Any modification of the Tender documents that may become necessary as a result of the site tour meeting will be made and furnished to all Bidders.
- .6 The Bidder shall be deemed to have satisfied themselves as to the form and nature of the site, the quantities and nature of the Work and materials necessary for the completion of the Works, and in general to have obtained all necessary information as to the risks, contingencies and other circumstances which may influence or affect his Tender.
- .7 Bidders 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, uncertainty of weather, difficulties with access, and all other reasonable contingencies. Bidders 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.
- .8 No after claim will be allowed or considered for any work that may be required for the proper execution and completion of the work, due to failure by the Contractor to examine the site and make proper allowances for the conditions to be encountered.

## 1.7 Safety

- .1 All work must be carried out in strict accordance with the Bermuda Occupational Safety and Health Act 1982 and the Occupational Safety and Health regulations of 2009, and any subsequent revision;
- .2 Alcohol, Smoke and Drug-Free Policy:
  - .1 All Government buildings and work sites are designated as alcohol, smoke and drug-free.
  - .2 Please note: the Department of Works and Engineering policy includes the



provision that no alcohol or prohibited drugs shall be consumed on the site or in any vehicle related to the work or service provided. Also, no employ of the contractor or sub-contractor shall be under the influence of alcohol or drugs whilst at work.

## Part 2 TENDER DOCUMENTS

### 2.1 Content of the Tender Documents

- .1 The set of Tender documents issued for the purpose of Tendering includes the documents stated below, together with any Addenda thereto issued in accordance with Clause 2.3 and any minutes of pre-bid site meetings.

#### Tender Documents and Forms

- Instructions to Bidders
  - Bid Forms
    - Attachment 'A' – Form of Tender
    - Attachment 'B' – Appendix to Form of Tender
    - Attachment 'C' – Agreement Acknowledgement
    - Attachment 'D' – Company Information
    - Attachment 'E' – Personnel Qualifications
    - Attachment 'F' – Certificate of Confirmation of Non-Collusion
    - Attachment 'G' – Tender Price Breakdown
    - Attachment 'H' – Labour and Mark Up Rates
  - Exhibit 'A' – Tender Evaluation Matrix
  - Exhibit 'B' – Sample Contract Documents
  - Exhibit 'C' – General Specifications
  - Exhibit 'D' – Drawings
- .2 The Bidder is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the Tender documents. Failure to comply with the requirements of the Tender submission will be at the Bidder's own risk.
- .3 Tender documents and addendums are to be downloaded from the Government of Bermuda, Portal at <https://www.gov.bm/procurement-notice> site.

### 2.2 Clarification of Tender Documents

- .1 A prospective Bidder requiring any clarification of the Tender documents may notify the Government in writing by email to Mr. J. Tarik Christopher at [tjchristopher@gov.bm](mailto:tjchristopher@gov.bm) .
- .2 The Government will respond by posting an addendum on the Government Portal at <https://www.gov.bm/procurement-notice> notices for clarification which they receive earlier than three (3) business days prior to the deadline for the submission of Tenders.
- .3 Written copies of the Government's responses, where necessary (including a description of the inquiry but without identifying its source), will be sent to all prospective Bidders who have provided contact details.
- .4 Submissions of written queries shall be sent to the Project Manager at the following address by email:

Ministry of Public Works  
Department of Works and Engineering  
3<sup>rd</sup> Floor, 56 Church Street



Hamilton, HM12 Bermuda

**Attention: J Tarik Christopher**

Fax: (441) 278-0579;

Email: [tjchristopher@gov.bm](mailto:tjchristopher@gov.bm)

Absolutely no verbal questions/clarification will be acknowledged.

## 2.3 Amendment of Tender Documents

- .1 At any time prior to the deadline for submission of Tenders, the Government may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective Bidder, modify the Tender documents by the issuance of an Addendum.
- .2 The Addendum will be sent in writing by email to all prospective Bidders who have attended the Site Meeting from the Government and will be binding upon them.
- .3 All prospective Bidders are responsible for checking the Government of Bermuda, Portal at <https://www.gov.bm/procurement-notice> notice and download Addenda posted with regard to this project.
- .4 In order to afford prospective Bidders reasonable time in which to take an Addendum into account in preparing their Tenders, the Government may, at their discretion, extend the deadline for the submission of Tenders in accordance with Clause 4.2.

## Part 3 PREPARATION OF TENDERS

### 3.1 Language of the Tender

- .1 The Tender prepared by the Bidder and all correspondence and documents relating to the Tender exchanged by the Bidder and the Government, shall be written in the English language.

### 3.2 Documents Comprising the Bidder's Tender

- .1 The Tender to be prepared by the Bidder shall contain the following:
  - .1 Tender Forms – Mandatory
  - .2 Form of Tender and Appendix to Form of Tender;
  - .3 Tender Price Breakdown;
  - .4 Labour and Mark-Up Rates;
  - .5 Certificate of Confirmation of Non-Collusion; (Mandatory)
  - .6 Company Information Forms;
- .2 Additional Required Documentation
  - .1 Letter from principal bank confirming credit status of Bidder;
  - .2 Eligibility and qualifications of firms and personnel;
  - .3 Bidder's and Sub-contractor's Certificates of Incorporation;
  - .4 Construction Schedule;
  - .5 Method Statement about how the installation is to be completed;
  - .6 Safety and Health Plan for the Project;



- .7 Any other materials required to be completed and submitted in accordance with the Instructions to Bidders embodied in the Tender documents.

The Tender Forms provided in the Tender documents shall be used without exception. One copy of the above is to be returned in accordance with Clause 3.8.

### 3.3 Tender Prices

- .1 Unless stated otherwise in the Tender documents, the Contract shall be for the whole Works as detailed in these documents and shown on the drawings and based on the completed Form of Tender lump sum, as submitted by the Bidder.
- .2 The Bidder shall fill in separate prices for all items of Works described in the Tender Price Breakdown. Items against which no price is entered by the Bidder will not be paid for by the Government when executed and shall be deemed covered by the other lump sum prices in the Tender Price Breakdown.
- .3 All duties, taxes and other levies payable by the Bidder under the Contract, or for any other cause, as of the closing date for submission of Tender, shall be included in the rates and prices and total Tender.

### 3.4 Special Requirements

- .1 Submit individual rates for labour, materials, and mark-ups as indicated in the Labour, Materials, and Mark-Up Rates Form.

### 3.5 Bidder's Schedule

- .1 Bidders are advised that in order to comply with the tendering procedure for this Contract, Bidders shall include with their completed tenders a statement of the length of time required to complete the Works. The Government may request a complete detailed schedule for completion of the works after the submission of tenders in order to fully evaluate the tenders. Failure to provide a schedule within five (5) working days may result in the tender being rejected.
- .2 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.
- .3 Bidders are to specify their most cost effective completion date.
- .4 The Bidder shall make every effort to complete the Works by the stipulated completion date, and shall adjust his schedule of activities accordingly.
- .5 The Bidder shall pay extra costs to complete the work on schedule, which may be incurred because of: increasing the labour force; increasing working hours either by overtime or by using shifts; using more equipment and machinery; or any other procedure which must be used.
- .6 Include in tender for any overtime or abnormal shift required to complete the project. Allow for extra care to minimize disruptions in an operational facility.



### 3.6 Currencies of Tender

- .1 The prices and rates shall be quoted in Bermuda dollars.

### 3.7 Tender Validity

- .1 Tenders shall remain valid and open for a period of ninety (90) calendar days after the date of Tender opening prescribed in Clause 4.2.
- .2 In exceptional circumstances prior to expiry of the original Tender Validity period, the Government may request the Bidder for a specified Extension in the period of Validity. The request and the responses thereto shall be made in writing by email. A Bidder may refuse the request and withdraw his Tender. A Bidder agreeing to the request will not be required nor permitted to modify his Tender.

### 3.8 Format and Signing of Tenders

- .1 The Bidder shall prepare one original set of the documents comprising the Tender as described in Sub-Clause 3.2.1 of these Instructions to Bidders.
- .2 The Tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to bind the Bidder to the Contract. All pages of the Tender where entries or amendments have been made shall be initialled by the person or persons signing the Tender.
- .3 The complete Tender shall be without alterations, interlineations or erasures, except those to accord with instructions issued by the Government, or as necessary to correct errors made by the Bidder, in which case such corrections shall be initialled by the person or persons signing the Tender.
- .4 Only one Tender may be submitted by each Bidder. No Bidder may participate in the Tender of another for the same Contract in any relation whatsoever.

## Part 4 SUBMISSION OF TENDERS

### 4.1 Sealing and Marking of Tenders

- .1 The bidder shall submit their tender in a single envelope.
- .2 The sealed and clearly marked envelope shall:
  - .1 Be addressed to:

Ministry of Public Works  
General Post Office Building  
3rd Floor, 56 Church Street  
Hamilton HM CX  
Bermuda  
**Attention Mr. J. Tarik Christopher**



- .2 Bear the following identification:
  - .1 Tender for **“South Distribution Water Main Replacement”**
  - .2 The words **“DO NOT OPEN BEFORE 3:00PM AST on 31<sup>st</sup> March 2017**
  - .3 The envelope shall indicate the name and address of the Bidder to enable the Tender to be returned unopened in the event that it is declared late or is otherwise unacceptable.
- .3 Each copy of the Tender shall be deposited in the Tender Box located at the office indicated in Sub-Clause 4.1.2 above or can be sent by mail or Courier.
- .4 If the envelope is not sealed and marked as instructed above, the Government will assume no responsibility for the misplacement or premature opening of the proposal submitted. An envelope opened prematurely for this cause will be rejected by the Government and bidder notified.

#### 4.2 **Deadline for Submission of Tenders**

- .1 Tenders must be received by the Government at the address specified above no later than the date and time specified in the letter of invitation.
- .2 The Government may, at their discretion, extend the deadline for submission of Tender by issuing an amendment in accordance with Clause 2.3 in which case all rights and obligations of the Government and the Bidders previously subject to the original deadline shall thereafter be subject to the new deadline as extended.

#### 4.3 **Late Tenders**

- .1 Any Tender received by the Government after the deadline for submission of Tenders prescribed by the Government, in accordance with Clause 4.2 will be returned to the Bidder.

#### 4.4 **Modifications and Withdrawal of Tenders**

- .1 The Bidder may modify or withdraw his Tender after Tender submission, provided that the modification or notice of withdrawal is received in writing by the Government prior to the prescribed deadline for submission of Tenders.
- .2 The Bidder's modification or notice of withdrawal shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause 4.1 and 4.2 for the submission of Tenders with the envelope additionally marked “MODIFICATION” or “WITHDRAWAL” as appropriate.
- .3 Subject to Clause 5.3, no Tender shall be modified subsequent to the deadline for submission of Tenders.



## Part 5 TENDER OPENING AND EVALUATION

### 5.1 Tender Opening

- .1 Tenders for which an acceptable notice of withdrawal has been submitted pursuant to Clause 4.4 shall not be opened. The Government will examine Tenders to determine whether they are complete, whether the requisite Tender Securities have been furnished, whether the documents have been properly signed and whether the Tenders are generally in order. Tenders shall be opened after **3:00PM AST on 31<sup>st</sup> March 2017**. At Tender opening, a member of the Purchasing and Tendering Committee will announce the Bidders' names and the Tender Prices.
- .2 The Government shall prepare, for their own records, minutes of the Tender opening, including the information disclosed to those present.

### 5.2 Process to be Confidential

- .1 After the public opening of Tenders, information relating to the examination, clarification, evaluation and comparison of Tenders and recommendations concerning the award of contract shall not be disclosed to Bidders or other persons not officially concerned with such process until the award of the Contract to the successful Bidder has been announced.
- .2 Any effort by a Bidder to influence the Government in the process of examination, clarification, evaluation and comparison of Tenders, and in decisions concerning award of Contract, shall result in the rejection of the Bidder's Tender.

### 5.3 Clarification of Tenders

- .1 To assist in the examination, evaluation and comparison of Tenders, the Government may ask Bidders individually for clarification of their Tenders. The request for clarification and the response shall be in writing. No change in the price or substance of the Tender shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Government during the evaluation of the Tenders in accordance with Clause 5.6.

### 5.4 Evaluation and Comparison of Tenders

- .1 The tenders submitted will be evaluated in a two-stage process. During the preliminary stage, a determination will be made as to whether all requested information has been provided. A short list of potential contractors will be developed, and their tenders will be scored utilizing an evaluation matrix with the following evaluation criteria: (A) experience and capacity; (B) financial analysis; and (C) Social. Scores will be entered in to the evaluation matrix.
- .2 The tender assessment will take into consideration the submitted tender documents inclusive of each Tenderer's prices, schedule of rates, proposed methodology, qualifications, overall relevant experience in relation to this type of work, and the applicable qualifications of the team and each team member proposed to be used to undertake the work. The Government reserves the right to accept or reject any variations, deviations or alternative offers. Variations, deviations and alternative offers and other factors which are in excess of the requirement of the tendering documents or otherwise



result in the accrual of unsolicited benefits to the Government shall not be taken into account in the tender evaluation.

## 5.5 Determination of Responsiveness

- .1 Prior to the detailed evaluation of Tenders, the Government will determine whether each Tender is substantially responsive to the requirements of the Tender documents.
- .2 For the purpose of this Clause, a substantially responsive Tender is one which conforms to all the terms, conditions and specifications of the Tender documents without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the Works, or which limits in any substantial way, inconsistent with the Tendering documents, the Government's rights or the Bidder's obligations under the Contract, and the rectification of which deviation or reservation would affect unfairly the competitive position of other Bidders presenting substantially responsive Tenders.
- .3 If the Tender is not substantially responsive to the requirements of the Tender documents, the Government reserves the right to request further information to make the Tender fully responsive as noted in Clause 5.3.

## 5.6 Correction of Errors

- .1 Tenders determined to be substantially responsive will be checked by the Government for any arithmetic errors in computation and summations. Errors will be corrected by the Government as follows:
  - .1 Where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
  - .2 Where there is a discrepancy between the individual lump sums and the total amount derived from the sum of the individual lump sums, the individual lump sums as quoted will govern, and the total amount will be corrected.
- .2 The amount stated in the Form of Tender will be adjusted by the Government in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount of the Tender, his Tender will be rejected.

## 5.7 Evaluation and Comparison of Tenders

- .1 The Government will evaluate and compare only Tenders determined to be substantially responsive to the requirements of the Tender documents in accordance with Clause 5.5.
- .2 The tender assessment will take into consideration the submitted proposal documentation inclusive of the tendered prices; schedule of rates; the proposed methodology, work plan, schedule; how each of the scope of work items will be addressed; how compliance with applicable Codes, practices, and procedures will be demonstrated; training programme; the firm's qualifications and overall relevant experience in relation to this type of work; and the applicable qualifications and the experience of the team and each team member proposed to be used to undertake the work.
- .3 The tender will be evaluated under the Tender Evaluation Matrix given in the Tender



Documents.

- .4 The Government reserves the right to accept or reject any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the Tendering documents or otherwise result in the accrual of unsolicited benefits to the Government shall not be taken into account in Tender Evaluation.

## Part 6 AWARD OF CONTRACT

### 6.1 Award Criteria

- .1 Subject to Clause 5.6, the Government will award the Contract to the Bidder whose Tender has been determined to be substantially responsive to the Tendering documents and who, in the opinion of the Government, has offered the best proposal taking into consideration the Tender price, the Bidder's capability and available resources to carry out the Contract effectively and the Bidder's construction schedule, pursuant to Clause 5.7. This may not be the lowest priced tender received.
- .2 The Government is not bound to accept the lowest priced or any Tenders and reserves the right to reject any Tender and to annul the Tendering process and reject all Tenders at any time prior to Award of Contract, without thereby incurring any liability to the affected Bidder, or Bidders or being under any obligations to inform the affected Bidder or Bidders of the grounds for the Government's action.
- .3 The Government may declare the Tendering void when it is evident that there is a lack of competition or there has been collusion. All Tenders may be rejected if substantially higher than the budget.

### 6.2 Notification of Award

- .1 Prior to the expiration of the period of Tender Validity prescribed in paragraph 3.7 of these instructions the Government will notify the successful Bidder by email and/or registered letter that its Tender has been accepted. This letter (hereinafter and in the Conditions of Contract called "Letter of Acceptance") shall name the sum which the Government will pay to the Contractor in consideration of the execution, completion and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called "the Contract Price").
- .2 The successful tender together with the letter of acceptance will constitute the formation of a binding the Contract unless and until a formal agreement is executed.
- .3 The Government will promptly notify the unsuccessful Bidders that their Tenders have been unsuccessful.

### 6.3 Signing of Contract Agreement

- .1 At the same time that the Government notifies the successful Bidder that its Tender has been accepted, the Government will send the Bidder the Form of Agreement provided in the Tendering documents, incorporating all agreements between the parties.
- .2 Within 7 business days of receipt of the Form of Agreement, the successful Bidder shall sign the Form and return it to the Government.



**END OF INSTRUCTIONS TO BIDDERS**



**Part 7 ATTACHMENTS AND EXHIBITS**

**Bid Attachment 'A' - Form of Tender**

(Note: all sheets form part of the tender)

**TO: Permanent Secretary, Ministry of Public Works**

1. Having examined the Instructions to Bidders, Conditions of Contract, the Site, the Drawings and Specifications, and Addenda Nos. \_\_\_\_ inclusive for the execution of the above named Works, we, the undersigned, offer to execute and complete the whole of the said works and remedy any defects therein in conformity with the Conditions of Contract, Specifications, Drawings, and Addenda for the sum of:

\_\_\_\_\_ (Words)

\_\_\_\_\_ (Figures)

or such other sum as may be ascertained in accordance with the said Conditions.

Contract Period: \_\_\_\_\_ Calendar Weeks

Proposed Start Date: \_\_\_\_\_, 2017

2. We declare that this tender is made without any connection, comparison of figures or arrangements with or knowledge of any other corporation, firm or person making a tender for the same work and is in all respects fair and without collusion or fraud.
3. We acknowledge that the Government is not bound to accept the lowest or any tender, and will not accept any late tender.
4. We confirm that we, the undersigned, are conducting business as a proper legal entity and are not 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.
5. We confirm that we have submitted a bona fide Tender, intended to be competitive and we have not fixed or adjusted our Price by or under or in accordance with any agreement or arrangement with any other bidder.
6. We acknowledge that both the Form of Tender and Appendix to Form of Tender form part of our Tender.
7. We undertake, if our Tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to the Tender.
8. We confirm that our Tender shall remain open for acceptance by the Government of Bermuda for a period of Ninety (90) calendar days from the date of this undertaking and shall not withdraw this Tender during this period.
10. We undertake to commence the work within **Fourteen (14) business days** of the date of the acceptance of the Contract.

(Continues on next page)



- 11. Unless and until a formal agreement is prepared and executed this Tender, together with your written acceptance thereof, shall constitute a binding contract between us.
- 12. We understand that you are not bound to accept the lowest or any tender that you may receive.
- 13. We consent to the collection and use of any information we give to the Government in response to this solicitation document and waive any right to challenge any decision made by the Government to disclose the information.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2017.

**SIGNED:**

(Signature) \_\_\_\_\_ in the capacity of \_\_\_\_\_

(Block letters) \_\_\_\_\_

Duly authorized to sign tenders for and on behalf of:

(Firm) \_\_\_\_\_

(Address) \_\_\_\_\_

**WITNESS:**

(Signature) \_\_\_\_\_

(Block letters) \_\_\_\_\_

Occupation \_\_\_\_\_



## Bid Attachment 'B' - Appendix to Form of Tender

(Note: all sheets form part of the tender)

The General provisions below are modification and clarifications of the FIDIC Short Form Contract. All other clauses remain the same.

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)	Document Identification
	(a) The Agreement	Sample included in Tender Documents
	(b) Letter of Acceptance	Issued after Tender
	(c) Addenda	Identify in Form of Tender
	(d) Particular Conditions	Included in Tender Documents
	(e) General Conditions	Included in Tender Documents
	(f) Drawings and Specifications	Included in Tender Documents
1.1.3.3	Time for Completion	----- days
1.1.3.7	Defects Notification Period	365 days
1.4	Law of the Contract	Laws of Bermuda
1.4	Language	English
<b>2</b>	<b>The Employer</b>	Ministry of Public Works (the <i>Ministry</i> )
2.1	Provision of Site	During normal facility operating hours, starting on the Commencement Date. Extended hours allowed; must be arranged with Employer.
<b>3</b>	<b>Employer's Representatives</b>	
3.1	The Engineer	Chief Engineer
<b>4</b>	<b>The Contractor</b>	
4.2	Performance Security:	
4.2	Amount	\$nil
4.2	Form	Not required
<b>5</b>	<b>Design by Contractor</b>	



Sub-Clause	Item	Data
5.1	Requirements for Contractor's design	Nil
<b>8</b>	<b>Time for Completion</b>	
8.2	Time for submission	Within 14 days of the Commencement Date
8.3	Form of programme	Electronic format (e.g. Microsoft Project)
8.7	Amount payable due to failure to complete	\$ 150 per day up to a maximum of 10% of sum stated in the Agreement
<b>11</b>	<b>Defects Liability</b>	
11.1	Period for notifying defects	365 days calculated from the date stated in the notice under Sub-Clause 8.2
<b>13</b>	<b>Variations and Adjustments</b>	
13.6	Day work rates	<u>Attach hourly rates for labour with Tender. See Tender Forms.</u>
<b>14</b>	<b>Contract Price and Payment</b>	
14.1	Lump sum price	<u>Refer to Form of Tender</u>
14.5	Percentage of value of Materials and Plant	Materials 80% Plant 90%
14.7	Percentage of retention	10%
14.8	Rate of interest	0.5 % per annum
14.9	Expiry period for payment of second half of retention	On completion of defects as provided in the notice under Sub-Clause 9.1
14.15	Currency of payment	Bermuda Dollars
<b>18</b>	<b>Insurance</b>	
18.2	The Works, Materials, Plant and fees	The sum stated in the Agreement plus 15%
18.2	Contractor's Equipment	Full replacement cost
18.3	Third party injury to persons and damage to property	\$ 1,000,000.00
18.4	Workers	\$ 1,000,000.00
	Other Cover	_____
	Exclusions	_____



Sub- Clause	Item	Data
<b>20</b>	<b>Claims Disputes and Arbitration</b>	
20.6	Rules	Bermuda Arbitration Act 1986
20.6	Appointing authority	In accordance with the Bermuda Arbitration Act 1986
20.6	Place of Arbitration	Bermuda



## Bid Attachment 'C' – Agreement Acknowledgement

(Note: all sheets form part of the tender)

### FIDIC Standard Short Form of Agreement Acknowledgement Letter

This is to certify that I, \_\_\_\_\_ (name), in the position of \_\_\_\_\_ hereby acknowledge that I am aware of the terms and conditions of the attached FIDIC Conditions of Contract for the Short Form of Contract, First Edition 1999, published by the Federation Internationale des Ingenieurs-Conseils (FIDIC).

I acknowledge that the following documents have been provided in the Request for Tender package and at the date of this submission I have no issue with the terms and conditions of this agreement.

- FIDIC Short Form Contract including General Conditions and Particular Conditions
- Specifications and Drawings

**Signed:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**Date:** \_\_\_\_\_



## Bid Attachment 'D' – Company Information

(Note: all sheets form part of the tender)

**Submit multiple copies of Attachment 'D', one for each Contractor/Subcontractor included in this Bid.**

**1. Principal(s), Director(s), and Shareholder(s) of the Company:**

\_\_\_\_\_

\_\_\_\_\_

**2. Company Insurance details:**

Commercial Third Party Insurance carried:                      BD\$ \_\_\_\_\_

Workers Compensation Insurance carried:                      BD\$ \_\_\_\_\_

**3. Company's Bermuda Payroll Tax No.:** \_\_\_\_\_

**4. Company's Bermuda Social Insurance No.:** \_\_\_\_\_

**5. Company Banking Details:**

Name and address of principal bankers:

\_\_\_\_\_

\_\_\_\_\_

Include a letter from principal bank confirming credit status of Bidder.

**6. Do you have any involvement with other entities that may be seen as a conflict of interest? If so, please provide details:**

\_\_\_\_\_

\_\_\_\_\_

**7.**

<b>TOTAL NUMBER OF STAFF</b>	
<b>NUMBER OF BERMUDIAN</b>	
<b>NUMBER OF NON-BERMUDIANS</b>	
<b>PERCENTAGE OF BERMUDIANS</b>	



**Bid Attachment 'D' – Company Information (continued)**

- 8. **Attach a copy of the Company`s Certificate of Incorporation.**\_\_\_\_\_
- 9. **Do you have an Environmental Policy? If so, please attach.**\_\_\_\_\_
- 10. **Do you have a Safety and Health Policy? If so, please attach.**\_\_\_\_\_
- 11. **Do you provide apprenticeships/training positions?**\_\_\_\_\_
- 12. **Have you participated in appropriate business skills training, e.g. The BEDC Construction incubator, or have verifiable business skills (experience or training)? If so, please provide details.**

---

---

Signed: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

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



## Bid Attachment 'E' – Personnel Qualifications

(Note: all sheets form part of the tender)

**Note: Include resumes for all personnel identified in this Bid Form.**

### Project Manager

Company Name: \_\_\_\_\_

Employee Name	Title	Employed Since and Total Years' Experience	Certifications and Dates Received



## **Bid Attachment 'F' - Certificate of Confirmation of Non-Collusion**

### **Notes for the tenderer/bidder**

The essence of Open Tendering is that the Government of Bermuda shall receive bona fide competitive Tenders from all persons tendering. In recognition of this principle, each company that submits a tender will be required, by way of the signature of a duly authorized representative of the company, to confirm that the tender has been submitted without any form of collusion.

All tenderers must complete and sign a Certificate of Confirmation of Non-Collusion. Any tenders 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 tenderer 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 tenderer and/or any party involved in the matter.

Any tenderer that submits false information in response to a tender, and any other person or company involved in collusion, may be excluded from tendering for future contracts tendered by the Government of Bermuda.

### **Confirmation of non-collusion**

I/We certify that this is a bona fide Tender, intended to be competitive and that I/We have not fixed or adjusted the amount of the Tender 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 tender pack, or supplementary information provided to all bidders.

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 tender administrator the amount or approximate amount of my/our proposed Tender (other than in confidence in order to obtain quotations necessary for the preparation of the Tender for insurance) or
- (b) entering into any agreement or arrangement with any other person that he shall refrain from tendering or as to the amount of any Tender 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 tender.

Signed

(1) \_\_\_\_\_ Status \_\_\_\_\_ Date \_\_\_\_\_

(2) \_\_\_\_\_ Status \_\_\_\_\_ Date \_\_\_\_\_

for and on behalf of

\_\_\_\_\_



## Bid Attachment 'G' - Tender Price Breakdown

(Note: all sheets form part of the tender)

### Field Works

ITEM	DESCRIPTION	QUANTITY	SUM
1.	Supply of Pipework and fittings (attach itemized Bill of Materials Sheet).	Lump Sum	
2.	Excavation of trenching	Lump Sum	
3.	Traffic Control	Lump Sum	
4.	Installation of 6" pipework	Lump Sum	
5.	Backfill pipeline and reinstatement	Lump Sum	
6.	Installation of 1" pipework	Lump Sum	
7.	Hydrostatic Testing	Lump Sum	
8.	<p><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.</p> <p>Bidder to itemise:</p>	Lump Sum	
<b>TOTAL TENDER SUM FOR WATERMAIN 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> .....			



## Bid Attachment 'H' - 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	
8.	<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		

### 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>	

END OF TENDER FORMS



## South Distribution Water Main Replacement Fort Hill Road, Devonshire

### Exhibit 'A': Tender Evaluation Matrix and Explanatory Notes

**A. TECHNICAL / MANAGERIAL COMPETENCE EVALUATION SECTION:**

Technical Competence of Consultant's Team / Organisation	Score / 10	Weighting	Weighted Score
Rank the availability of competent and qualified personnel and other resources available to perform Services in the required timeframe, including the qualifications and past performance of assigned staff on similar assignments	/10	1.0	/10
Rank contractor's Corporate Background and performance on similar projects	/10	1.0	/10
Contractor's attendance of pre bid site meeting	/10	1.0	/10
<b>Technical / Managerial Score:</b>			<b>/30</b>

**C. FINANCIAL - PRICES AND RATES:**

FINANCIAL EVALUATION	Score / 10	Weighting	Weighted Score
Tender price (include all costs)	/10	4.0	/40
The bidder is in a stable Financial Position	/10	1.0	/10
The Bidder has no outstanding Government debt	/10	1.0	/10
<b>Prices and Rates Score:</b>			<b>/60</b>

**D. SOCIAL:**

SOCIAL, ENVIRONMENT AND ECONOMIC	Score / 10	Weighting	Weighted Score
Percentage of Workforce that are Bermudian	/10	.5	/5
Does the bidder offer evidence of training positions or be willing to offer them	/10	.5	/5
<b>Prices and Rates Score:</b>			<b>/10</b>

**TOTAL EVALUATION SCORE: \_\_\_\_\_/100**



## Exhibit 'A': Tender Evaluation Matrix and Explanatory Notes (continued)

### EXPLANATORY NOTES:

Proposals will be evaluated to determine the best value offered to the Government of Bermuda based on pre-determined criteria:

The bid price alone will not be the sole determining factor in the selection of the successful bidder for this work. The Government will consider the tender costs for all items identified herein together with the bidder's qualifications, references, and understanding of the scope of work to form the basis for its decision on who will be selected. The Government reserves the right to reject any or all bids and to determine which bid is, in the Government's judgment, the most responsive.

The evaluation committee may, at its sole option, ask for interviews or oral presentations by any Proponent(s) participating in this process (creation of a short list). Attendance at any such interview will be at the Proponent's expense.

The evaluation committee may seek written clarification from any or all prospective contractors in order to better understand and to evaluate the proposal.

### Evaluation Criteria

#### A. A. Technical/Managerial Competence Evaluation Criteria

Components to be evaluated include:

- i. Availability of competent and qualified personnel and other resources to perform the Services;
- ii. qualifications and past performance of assigned staff for similar assignments;
- iii. the Contractor's Corporate Background and performance on similar projects;
- iv. proposed quality management plan for the project;
- v. Business integrity management system; and

#### B. Financial and Cost Evaluation.

Components to be evaluated include:

- i. The lowest price shall be awarded 10 points (all prices within 5% will receive the same price points). The next lowest price (beyond 5%) will receive 7.5 points. Points for other submissions will be assigned with 2.5 fewer points for each successively higher priced price proposal. But again, each time the same score will be awarded if successive prices are within 5% of the last highest price.
- ii. Notwithstanding the technical / managerial and price scores, the Government reserves the right to reject any tender where prices are deemed to be unreasonable relative to other prices proposed, typically a 25% variance from the average qualified proposal (excluding the proposal in question).
- iii. The Government reserves the right to negotiate any or all conditions of the Contractor's proposed work plan and reject all submitted proposals.
- iv. The Government reserves the right to award a contract to the bidder whose services are judged most likely to produce a project, which results in best overall value to the Government. **The lowest priced tender or highest qualified bid, or any bid, will not necessarily be accepted.**



Department of Works and Engineering

## **SOUTH DISTRIBUTION WATER MAIN REPLACEMENT Fort Hill Road, Devonshire**

### **Exhibit 'B': Sample Contract Documents**

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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 the South Distribution Water Main Replacement at Fort Hill Road, Prospect 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) \$ \_\_\_\_\_

Or such other sum as may be ascertained under the Contract.

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)	Document Identification
	(a) The Agreement	
	(b) Letter of Acceptance	
	(c) Bid Attachment A - Form of Tender	
	(d) Bid Attachment C – Agreement Acknowledgement	
	(e) Bid Attachment G – Tender Price Breakdown	
	(f) Bid Attachment H – Labour and Mark-up Rates	
	(g) Bid Attachment F – Certificate of Confirmation of Non-Collusion	
	(h)Addenda	
	(i)Particular Conditions	
	(j) General Conditions	
	(k) Drawings & Specifications	
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: Yves (Bob) Lortie
3.2	Name and address of Employer's representative (if known)	T. J. Christopher 32 Palmetto Road, Devonshire, DV 05
<b>4</b>	<b>The Contractor</b>	
4.4	Performance Security (if any):	
4.4	Amount	
4.4	Form	



Sub-Clause	Item	Data
<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	\$ 150 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	Bid Attachment H – Labour and Mark – Up Rates .
<b>11</b>	<b>Contract Price and Payment</b>	
11.1	Lump sum price	Bid Attachment A – Form of Tender
11.2	Percentage of value of Materials and Plant	Materials 80% Plant 90%
11.3	Percentage of retention	10%
11.8	Rate of interest	0.5% per annum
11.7	Currency of payment	Bermuda Dollars
<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	\$ 1,000,000.00
14.4	Workers	\$ 1,000,000.00
	Other Cover	
	Exclusions	
<b>15</b>	<b>Claims Disputes and Arbitration</b>	
15.3	Rules	Bermuda Arbitration Act 1986



<b>Sub-Clause</b>	<b>Item</b>	<b>Data</b>
15.3	Appointing authority	In accordance with the Bermuda Arbitration Act 1986
15.3	Place of Arbitration	Bermuda



## CONDITIONS OF CONTRACT

### 1.0 Short Form 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

16.0

### Taxation

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.

17.0

### Bribery

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.

18.0

### Debt Recovery

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.

19.0

### Strikes and Lock-Outs

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.

20.0

### Laws, Regulations and Orders

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.

21.0

### Construction of Contract

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.

22.0

### Members and Staff of Employer and Engineer not Personally Liable

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.



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**23.0**

**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.

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**24.0**

**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**



## South Distribution Water Main Replacement

### Exhibit 'C': Specifications



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## **SECTION 01010: SUMMARY OF WORK**

### **PART 1 – GENERAL**

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

**A** The Works, the trenching and installation of a 6-inch water main from the edge of grass verge of the car park in the area of Police building , 33 Headquarters Hill, Devonshire toward Police building, 2 Headquarters Hill, Devonshire.

Start & Finish points:

- There will be existing 6” diameter HDPE pipe at point A edge of grass verge.
- At point B excavate trench only for 1” diameter pipe.
- The new HDPE pipe will finish with a flange for connection to an existing 6” diameter Schedule 40 pipe at point C to be performed by others.

The Works consist of the excavation of a trench, installation of a 6-inch water main and reinstatement of the trench, grass verges and road surface.

**C** Along the route one connection from the new 6” diameter water main to 1” diameter is required at point B. A 1” diameter tee off to an isolation valve to be installed as a future connection to the Police Club building, 32 Headquarters Hill, Devonshire.

**D** The contractor will be responsible for the transport of all materials to storage on site or off site.

**E** 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 cost of works done 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 programme the works coordinating all tasks and activities.
- 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** Prepare and submit a Project Programme fixing the dates for submission and return of test samples.

**C** Do not proceed with Work affected by any submittal until review is complete.

**D** 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.

**E** Verify that field measurements and affected adjacent Work are coordinated.

**F** Contractor's responsibility for errors and omission in submission is not relieved by Employer's Representative review of submittals

**G** Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Employer's Representative review.

**H** 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 water main and reinstatement of road surface along Fort Hill Road
- Trenching works, installation of water main and reinstatement of grass verge and road surface at car park locations
- Transportation of construction debris to approved site
- Site Clean Up

**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 trenching on each road segment.
- Completion of water main installation on each road segment
- 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 6.00 pm 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.
- 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.
  - 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 Works and Engineering, Government of Bermuda.
- A** Within 5 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 trenching 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 trench 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.



**C** 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° F (7.2° to 12.7°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 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 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 water body 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 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:

Excavating and backfilling for utility trenches.

##### **1.2 Definitions**

- A Backfill: Soil material used to fill an excavation
  - Initial Backfill: Backfill placed beside and 4" over pipe in a trench,



- including haunches to support sides of pipe.
  - Final Backfill: Backfill placed and compacted in layers up to 8” deep over initial backfill to fill the 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.
- 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.
  - 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 1-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.

#### **3.2 Excavation for Utility 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.

- Clearance: Excavate a minimum width of 2” on each side of pipe.

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.

- Excavate trenches 4 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

#### **3.3 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.

#### **3.4 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.

### **3.5 Utility Trench 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 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.
  - 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.

### **3.6 Compaction of Soil Backfills**

- A** Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by hand-operated tampers.

### **3.7 Protection**

- A** Where settling occurs before the Maintenance Period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

### **3.8 Reinstatement**

- A** Permanent re-instatement of all public and private property shall be completed no later than three months after backfilling of trenches.



- 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 General**

- A** Materials shall consist of a black high-density polyethylene copolymer resin designed for extrusion for potable water and industrial applications per ASTM D1248 Type III Class C. The resin shall have a PE 3408 rating. The Manufacturer shall be ISO 9001 certified.
- B** 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.
- C** High Density Polyethylene piping systems shall have design pressure limit of 100 psig at SDR = 11, unless otherwise noted.
- D** High Density Polyethylene piping systems shall have design temperature limit of 120 degree F, unless otherwise noted.

### **2.2 Pipe**

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

### **2.3 Pipe Line Vents**

- A** All vent valves shall be D-040 Combination Air Valve “Barak” with a 2” NPT threaded connection available from A.R.I. Flow Control Accessories Ltd.

### **2.4 Tracer Wire**

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

### **2.5 Service Saddles**

Saddles for HDPE pipe 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.



## **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 Trenching and Backfill**

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

### **3.4 Pipe Installation**

**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 trench 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. Trenches 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** Joints shall be butt fused or flanged in accordance with the manufacturer's instructions.
- E** Pipe installed by the Contractor shall at the end of the completion of Works each day be capped with a temporary protection cap to keep the pipe free of debris and vermin.
- F** Welding of Pipe: Pipe may be welded to a maximum of 40-foot lengths. The Ministry has a welding machine available to the contractor for use. Prior to the use of the Ministry machine the Contractor shall provide a demonstration by their staff that they have a full understanding of the use and operation of the machine. Each weld shall have a unique identifying number stamped into the molten weld bead:
- G** Each weld shall have the following logged by the welder:
1. Weld number.
  2. Temperature of heater.
  3. Pressure applied during the weld.
  4. Time pressure was held for.
  5. Date of weld.
- H** Tracer wire shall be laid flat and securely affixed to the pipe at three metre intervals. The wire shall be protected from damage during the execution of 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.

### **3.6 Field Testing and Disinfection**

- A** The Contractor shall include in his Schedule of Work the points at which it intends to perform hydrostatic testing (Hydro 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. Instead, 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.
- D** Maximum length of pipe to be tested at any time shall be no more than 750 feet.
- E** At a minimum, no pipe shall be buried at the welds until hydrostatic testing has been performed and the results approved by the Employer's Representative. The pipe shall be exposed at each weld around its entire circumference for the duration of the hydrostatic test.
- F** The Contractor may elect to leave the entire un-tested section exposed for the hydrostatic tests.
- G** Pipes shall be pressurized 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.
- H** The pipe shall maintain the pressure for 8 hours without the need for restarting of the pump, except for the addition of makeup water as defined in the Hydrostatic Test procedure.
- I** Gauge readings shall be taken at hourly intervals during the hydrostatic test and the readings shall be logged by the Contractor.
- J** 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.
- K** All joints in the tested section shall be inspected at least twice during the test period.



- L** 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.
- M** On completion of the repair of any leaks, the pipe shall be retested, until it has passed the test.
- N** All HDPE pipes in the Scope of Works noted above shall be subjected to Hydrostatic Testing.
- O** 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 \*\*\***



## **South Distribution Water Main Replacement**

### **Exhibit 'D': Drawings**