



BARBADOS WATER AUTHORITY

TENDER FOR THE SUPPLY OF PIPES AND FITTINGS

March 2011

1. GENERAL

- 1.1 The Barbados Water Authority invites tenders for the supply of pipes and fittings to support its mains replacement programme and maintenance of the distribution system.
- 1.2 For further information please contact the Manager, Procurement at the Barbados Water Authority, telephone number 424-1650 between the hours of 8:15 am and 4:30 pm.

2. INSTRUCTIONS TO TENDERERS

- 2.1 All tenderers must supply the following information in their bids. Failure to provide the information will render the bid void: -
- a. Registration number of company;
 - b. Country in which company is registered;
 - c. The date on which the company was first incorporated and the names and address of all company directors.
 - d. A copy of company's Certificate of Incorporation, as evidence that the company is in existence at the date of the bid. Failure to provide the Certificate of Incorporation will render the tender void;
 - e. In the case of sole proprietorships or partnerships, the names and addresses of owners must be supplied. If the business is registered under the Registration and Business Names Act, a copy of the registration must be provided.

- f. Tenderers must provide a copy of their VAT Registration Certificate.
- g. Tenderers should be aware that the labour clauses (Public Contracts) Act, Cap. 349 shall, in so far as is applicable to the subject of the tender, apply to any contract made in respect of the tender.
- h. Tenders should be submitted in sealed envelopes marked “Tender for the supply of Pipes & Fittings” and addressed to:-

**The Chairman
Audit, Finance and Tenders Committee
Barbados Water Authority
Manor Lodge
Green Hall
St Michael**

to reach the office no later than Friday April 15, 2011 at 4.30pm.

- i. Tenders are to be placed in the Tenders Box which is located at the Barbados Water Authority’s office at Manor Lodge, Green Hill, St. Michael.
- j. No Tender will be considered unless it complies with the conditions set out in this notice.

- k. The Barbados Water Authority does not bind itself to accept the lowest or any tender.
- 2.2 All prices must be quoted in Barbados or US Dollars, CIF Bridgetown, Barbados. Prices quoted in US dollars will be evaluated using the prevailing exchange rate at the close of the tender. All unit prices quoted must be inclusive of (CIF) cost, insurance & freight. Prices tendered must be retained for the period of the contract.
- 2.3 It is the responsibility of the supplier to make all the necessary arrangements for letters of credit or other credit documents as deemed necessary in order to procure the goods. The Barbados Water Authority will not pay for any such documents.
- 2.4 The BWA reserves the right to refuse any tender for the delivery of goods and services that does not conform with the requirements of this document.
- 2.5 The successful tenderer will be required to enter into a formal contract with the Barbados Water Authority.
- 2.6 Pipes and fittings will be delivered in three (3) tranches. A delivery schedule for the pipes and fittings will be provided.
- 2.7 Complete specifications together with catalog numbers or catalogues giving details of all items must be submitted with the tender. Certificates stating the country of manufacture and country of origin for all pipes and fittings must be provided.

3. PERFORMANCE SECURITY

3.1 The successful Tenderer shall furnish the performance security in a form acceptable to the BWA within twenty-seven (27) days of the receipt of notification of award from the BWA. The performance security must be in a sum equivalent to ten percent (10%) of the contract price.

3.2 The performance security shall be valid for one (1) year after the date for completion of Suppliers obligations, and shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the BWA and shall be in one of the following forms:-

a. A bank guarantee irrevocable letter of credit, issued by a bank located in the Barbados or abroad, acceptable to the BWA and in the form provided in the Bidding Documents or another form acceptable to the BWA; or

b. A cashiers cheque, or certified check payable to the BWA or cash.

3.3 The performance security will be discharged by the BWA and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations, including any warranty under the Contract.

4. PENALTIES

The Barbados Water Authority reserves the right to enforce penalties

against a tenderer for delays occasioned by him in the execution of these works. The penalty shall apply from the stated completion date of the particular phase. The total penalty shall not exceed 5% of contract sum.

5. DELIVERY CONDITIONS

The successful Tenderer will be furnished with a schedule of delivery dates. It is expected that the delivery dates will not vary greatly from the proposed dates of delivery without a good reason. Delivery will be over a period of twelve (12) months.

SPECIFICATIONS

Note: All Standards and Codes given in this specification shall be the latest revision unless otherwise stated. All flanges must be machine cleaned prior to coating.

Acronyms:

BS - British Standard
AWWA - American Water Works Association
WRC - Water Research Council - U.K.
ANSI - American Standards Institute
WIS - British Water Industry Specification
ASTM - American Society for Testing & Materials

Pipe

Date of manufacture, type and class shall be clearly shown on the pipe. The Authority will not permit the use of pipe manufactured more than two (2) years prior to installation, or previously used pipe.

The socket ends of PVC pipe shall be suitable for use with deep insertion, push fit gasketed joints manufactured to meet the requirements of ASTM F-477. The bell section shall be designed to be at least as hydrostatically strong as the pipe wall and meet the requirements of AWWA C900. The joints of the ductile iron fittings shall be to ANSI A21.11 (AWWA C111).

All joint lubricant and accessories must be included.

PVC Pipe - AWWA C900

- All pipes shall be AWWA C900 Pressure Class 200, DR14.
- All pipes must have gasketed joints of the integral bell design.
- All pipes must have external dimensions compatible with ductile iron pipe, manufactured to ANSI/AWWA C151/A21.51.
- All pipes shall be capable of a continuous working pressure of at least 14.1 Kg/cm² (200 psi) and have an additional surge allowance, for 0.6 mps (2fps) flow velocity, of at least 2.8 Kg/cm² (40 psi) at 23°C (73.4°F), per factor of safety of 2.5.
- All pipes shall be **BLUE** in colour.

Ductile Iron Pipes

- All ductile iron shall be manufactured to ANSI/AWWA C151/A21.51 Class 53 with rubber push-fit joints.

- Pipes must be cement-mortar lined to ANSI/AWWA C104/A21.4 and have an asphaltic seal coat.
- Joints should be ABSU/AWWA C111/A21.11 and joint lubricant must be included.
- The pipes shall have a working pressure of 16 bar (236 psi) minimum.

HDPE Pipe

- All high density polyethylene pipe shall be manufactured AWWA C901, ASTM D2239 SDR 7 PC200 for sizes ¾” and 1”.
- Capable of operating under pressure rating of 200 PSI @ CEL 23 degrees Celsius 07 73.4 farenheihgt.
- The pipe shall be blue in colour

1. Fittings

1.1.1 The manufacturer must provide a certified copy of the flow test report from a certified independent testing institution and approval obtained from the BWA, prior to shipment of any items. The manufacturer must be listed by Universal Laboratories (UL) of the United States and approved by Factory Mutual (FM) of the United States or listed and approved by the Water Research Council, United Kingdom (WRC-UK). A certificate of compliance must be submitted and approval obtained from the BWA, prior to shipment of any items.

1.1.2 Valves shall meet or exceed the latest revision of BS 5163 Resilient Seated Gate Valve Standard.

2. Resilient Seated Gate Valves

2.1 The wedge shall be ductile iron completely rubber encapsulated, including the guides. The brass stem nut must be an integral part of the wedge to

maintain alignment. The wedge elastomer shall be bonded to the ductile iron wedge to prevent corrosion.

- 2.2 The stem shall have two O-rings and a wiper ring above the thrust collar and a third O-ring below the thrust collar. Stem seals should be capable of being replaced with the valve under pressure.
- 2.3 The stem shall be high tensile bronze to the latest revision of BS 2872, CZ116, CA104 screwed with thread of trapezoidal form - 12 mm pitch. Alternatively stainless steel to the latest revision of B.S. 970 431-S29. The stem can also be stainless steel. The stem must not contain lead or zinc.

Valves shall close clockwise

- 2.4 Valve stems shall be fitted with a cast iron square cap made to BS 1452 grade 14, dimensions - 1 1/8 ins. square at the top and 1 3/8 ins. square at the bottom, the depth between the top and the bottom shall be 2 5/8 ins. The square cap must have the capability of accommodating the Barbados Water Authority's standard valve opening tool.
- 2.5 The valve body and bonnet shall have an electrostatically applied fusion bonded epoxy coating both inside and outside with a minimum of 15 mils. All coatings shall meet or exceed the requirements of the British Water Industry Specification WIS 4-52-01.
- 2.6 Bolts, nuts and washers shall be of steel to BS 4278 and BS 4190 minimum and all exposed bolts, nuts and washers must be protected against corrosion as the valve body. All bolts, nuts and washers can also be of stainless steel.

- 2.7 O-ring style seals shall be used as the gasket on the bonnet and stuffing box to prevent the possibility of blow out.
- 2.8 All valves must be tested by hydrostatic pressure equal to the requirements of BS 5163 (latest revision) and a certified copy of the pressure report must be submitted prior to shipment from the manufacturer.
- 2.9 The overall length of the valve must be to BS 5163.
- 2.10 Valve Flanges shall be drilled to BS 4504, PN16.
- 2.11 Valves shall have a working pressure of 16 bar (236 psi) minimum.

3. Air Release Valves

- 3.1 The valve body shall be of ductile iron GG25 to BS 1452 grade 250.
- 3.2 The air valve shall have electrostatically applied fusion bonded epoxy coating inside and outside.
- 3.3 The valve shall be a combination air valve. The valve shall be double acting. The valve shall be a double orifice and shall be combined with a gate valve or a butterfly valve.
- 3.4 The valve shall have a 3" flanged inlet drilled to BS 4504.
- 3.5 The cover and nozzle shall be sealed to the body by an O-ring of NBR to BS 2494 type 3.
- 3.6 The air valve float shall be of rubber coated polycarbonate.

3.7 Bolts, nuts and washers shall be of steel to BS 4278 and B.S. 4190 minimum and all exposed bolts, nuts and washers must be protected against corrosion as the valve body.

3.8 The pressure test shall be in accordance with BS 5163.

3.9 The valve shall have a working pressure of 16 bar (235 psi) minimum.

4. Valve Boxes

4.1 Valve boxes shall be heavy duty ductile cast iron surface boxes. Boxes shall have a square top of dimensions around 6 ins. square.

4.2 There shall be a clear opening of around 3: ins. diameter or 4 ins. square.

4.3 The base area shall be around 9 ins. square.

4.4 The depth of the box shall be 9 ins. to 12 ins.

5. Air Valve Boxes

5.1 Boxes for air release valves shall be heavy duty ductile cast iron, black coated.

5.2 Boxes shall have a double triangular cover.

5.3 There shall be a clear opening of 24 ins x 18 ins, clear opening over base 30 ins x 24 ins.

5.4 The depth of the box shall be 6 ins.

PIPE FITTINGS

6. Ductile Iron Pipe Fittings

- 6.1 Fittings shall be of ductile iron to AWWA standard C153 with mechanical joints to ANSI/AWWA C110/A21.10 (or ANSI/AWWA C153/A21.53) with flanges drilled to B.S. 4504 PN16.
- 6.2 Fittings must be cement-mortar lined to ANSI/AWWA C104/A21.4 and have an asphaltic seal coat.
- 6.3 Fittings shall be coated on the exterior with tropical grade asphaltic coating to ANSI A21.51 (AWWA C151) 5 mils nominal dry film thickness.
- 6.4 All flange faces shall be machined prior to coating.
- 6.5 Joints shall be to ANSI/AWWA C111/A21.11 and joint lubricant must be included.
- 6.6 All joint accessories must be included.
- 6.7 Fittings shall have a working pressure of 16 bar (236 psi) minimum.

7. Couplings

- 7.1 The coupling shall be capable of fitting cast iron, ductile iron, steel, PVC, and asbestos cement pipes for each nominal diameter in one unit.
- 7.2 The gland rings and council sleeve must be ductile iron, GGG40, to BS 2789 grade 420-12.
- 7.3 Bolts nuts and washers shall be of steel to BS 4278 and BS 4190 minimum with nylon 11 paint - minimum 15 mils or equivalent.
- 7.4 Coating on gland rings and council sleeve shall be electrostatically applied fusion bonded coating or nylon 11 painted both inside and outside with a minimum of 15 mils.
- 7.5 The coating must be applied during manufacture.
- 7.6 The rubber seals shall be EPDM to BS 2494 type W.
- 7.7 Couplings shall have a working pressure of 16 bar (236 psi) minimum.

8. Manhole Access Covers

- 8.1 Manhole access covers shall be heavy duty ductile iron and black coated, Class D400 (group 4 according to EN 124).
- 8.2 Access covers shall have a non-rock, double triangular design and it must be capable of withstanding a 400kN (~ 40 tonnes) load test.
- 8.3 The following references must be presented with each offer;
 - ISO 9001 manufacturers' certificate
 - BS EN 124 certified and product schedule

- 8.4 The access cover manufacturer must be approved by the following certification bodies or approval equal;
- BS EN 45001
 - BS EN 45011
 - BS EN 45012
- 8.5 There shall be a clear opening of approximately 600 mm x 600 mm.
- 8.6 The maximum depth of the box shall be no more than 150 mm.
- 8.7 “WATER” must be inscribed on the access lid and it must carry the British Standard ‘Kitemark’ or be similarly approved.

Samples of the following items must be provided:

1. HDPE Pipe - $\frac{3}{4}$ " (6")
2. HDPE Pipe - 1" (6")
3. HDPE Pipe - 63mm (6")
4. Male Brass Coupling (Adapters) - $\frac{3}{4}$ "
5. Brass Ferrules Pushfit - $\frac{3}{4}$ "
6. Brass Ball Valves - $\frac{1}{2}$ "
7. Corporation Stop - $\frac{3}{4}$ "
8. Adapter Primofit - $\frac{3}{4}$ "
9. Adapter Primofit - 1"