



COCHIN PORT AUTHORITY
COCHIN-682009, KERALA, INDIA
Tele: 91-0484-2666414, 2666871
Telefax: 91-0484-2666414
E-mail:coptce@gmail.com

**TENDER DOCUMENT FOR PROVIDING FRESH WATER PIPE
LINE (100 MM DIA) FROM STB PUMP HOUSE TO NTB & OTB**

TECHNICAL BID (e-Tendering Mode)

Website:www.tenderwizard.com/CPT
CHIEF ENGINEER'S OFFICE
COCHIN PORT AUTHORITY
COCHIN-682009

TENDER No.T6/T-1968/2022-C

Rs.840/- (Rs.750 + 12% GST)

COCHIN PORT AUTHORITY

**TENDER FOR 'PROVIDING FRESH WATER PIPE LINE (100 MM DIA) FROM
STB PUMP HOUSE TO NTB & OTB'.**

(Tender No.T6/T-1968/2022-C)

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SIGNATURE OF TENDERER

COCHIN PORT AUTHORITY

CHIEF ENGINEER'S OFFICE,

COCHIN – 682009

No.T6/T-1968/2022-C

Date:-13-06-2022

1. TENDER NOTICE

1.1 Electronic tenders (e-tenders) in “**Two Cover System**” for “**Providing fresh water pipe line (100 mm dia) from STB Pump House to NTB & OTB**” are invited by the Suptdg. Engineer(CM), Cochin Port Authority, Willingdon Island, Cochin- 9 and will be received **up to 14.30hrs. on 04/07/2022**.The tenders shall be submitted in accordance with the ‘Instruction to Tenderers’ and ‘General Description and Special Conditions of Contract’ etc. as detailed in the Tender Documents. The tenders will be opened by the Suptdg.Engineer, COCHIN PORT AUTHORITY at this office on the same day at **15.00 hrs.**

Estimated cost:Rs.7,42,520/-

1.2 The Tender Document can be down loaded from the e-tendering portal www.tenderwizard.com/CPT from **10.00hrs. on 13-06-2022 to 14.30hrs on 04/07/2022** by making online requisition & submission of Demand Draft / Banker’s Cheque for **Rs.750/-+GST @12%(ie, Rs.840/-)** drawn in favour of the FA & CAO, COCHIN PORT AUTHORITY, payable at Kochi, being the cost of single copy of the Tender Document. **Scanned copy of the DD/ Banker’s Cheque shall be attached with the e-tender.**

1.3 The Tender Documents are also available at Port’s website www.cochinport.gov.in or Government of India (CPP) tender portal for reference.

1.4 The bidders need to obtain the one time User ID & password for log-in to e-Tendering Portal www.tenderwizard.com/CPT from the service provider M/s.KEONICS by paying registration amount of Rs.1124/- through online Payment using Credit/Debit Card/Net banking or DD in favour of “KSEDCL, Bangalore”.

1.5 The tender shall be submitted by an individual or by a registered Partnership firm or by a Limited Company. In the event of the tender being submitted by a registered partnership firm, it must be signed individually by each partner thereof. In the event of absence of any partner, it must be signed on his behalf by the person holding a proper power-of-attorney, authorizing him to do so and to bind the partner in all matters pertaining to the Contract including the arbitration clause, such power-of-attorney to be attached with the tender which must disclose that the firm is duly registered under Indian Partnership Act. If the tender is made by a Limited Company it shall be signed by a duly authorised person who shall produce with the tender satisfactory evidence of the authorization. In the case of a Limited

Company the tender should be accompanied by the Memorandum and Articles of Association of the Company. **Joint Venture is not allowed in the tender.**

- 1.6 **The tenders shall be submitted “on line” strictly in accordance with the Instructions to Tenderers and General Description and Special Conditions of Contract given in the Tender Document.** The bidders shall submit scanned copy of all the required documents such as DD / Bankers Cheque towards the cost of tender form and EMD; proof of experience, financial details, etc. along with e-tenders.
- 1.7 Original DD / Bankers Cheque towards the cost of tender and EMD, shall be submitted in a sealed cover to the **Suptdg. Engineer (CM), COCHIN PORT AUTHORITY, W/Island, Cochin-682009, KERALA, and these original documents shall be reached to the employer within 3 (THREE) working days from the Bid Due date. Non submission of original financial instruments towards the cost of tender document, EMD, within the above period leads to disqualification of Bids.**
- 1.8 The intending bidder must have valid Class-II or III digital signature certificate to submit the bid. **For further details, please contact e-Tender Help Desk No. 080-40482000/ 9746118529/9605557738.**

1.9 EARNEST MONEY TO BE DEPOSITED

- 1.9.1 Each tender should be accompanied by an Earnest Money amounting to **Rs.7,430/-**. The Earnest Money can be deposited through Demand Draft or Banker’s Cheque or Pay Order from a Scheduled Bank in India, drawn in favour of Financial Adviser & Chief Accounts Officer, COCHIN PORT AUTHORITY. The original DD/ Banker’s Cheque/ Pay Order shall be submitted to the SE(CM), COCHIN PORT AUTHORITY, Cochin-9, **within 3 (THREE) working days from the Bid Due date..** Scanned copy of the DD/ Banker’s Cheque/ Pay Order shall be attached with the tender submitted “online”. The Earnest Money deposited will not carry any interest.

1.10 Tender Submission/Opening:

- 1.10.1 The time schedule for various activities in connection with this tender will be as follows.

Description of activity	Schedule time	Venue
a)Last date & time for submission of tenders	14.30 hrs on 04/07/2022	-----
b)Public opening of Tenders	15.00 hrs on 04/07/2022	Chief Engineer’s Office

- 1.10.2 Tender shall include Cover A containing hard copy of **“EMD & COST OF TEDNER FORM”**. All other technical details including Technical Bid & Price Bid shall be submitted only **online**.

1.10.3 Technical Bid & Price Bid shall be submitted only 'Online'. The name and address of the tenderer shall be necessarily entered in the space provided in 'Price Bid'.

- 1.11 The right of acceptance of tender will rest with Port Authority Board who does not bind themselves to accept the lowest tender and reserves to themselves the authority to reject any or all of the tenders received without assigning any reason.
- 1.12 The Suptdg. Engineer(CM) or his duly authorized assistant will open the tenders in the presence of intending tenderers who may be present at the time in person or through their authorized representative. In the event of a tender being rejected, the Earnest Money paid with such unaccepted tender shall be refunded to the tenderer by the Financial Adviser and Chief Accounts Officer direct.
- 1.13 i) The tenderer should keep open the validity of the tender normally for 120 days from the date fixed for its opening.
ii) Should any tenderer withdraw his tender before this period, or make any modification in the terms and conditions of the tender which are not acceptable to the department, the Earnest Money deposited by the tenderer shall be forfeited.
- 1.14 The tenderer shall visit the site of work in order to acquaint himself with the conditions of the site, the locality and its environment.
- 1.15 The tenderer shall be deemed to have full knowledge of all documents, site, etc. whether he has inspected them or not. The submission of a tender by tenderer implies that he has read this notice and General Conditions of Contract and has made himself aware of the scope and specifications and other factors bearing on the tender.

1.16 Securities:

1.16.1 Security Deposit (SD) shall be 3% of the Contract value or value of the work done whichever is higher and it shall consist of the following:

- a) **Performance Security** 3% of contract value payable on award of the work.
B) **Retention Money:** NIL

In case, where the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills. While making payment, which will be released along with the Performance Security only

The total amount thus deposited towards SD will be retained as security for the due and proper fulfillment of the Contract and will not carry any interest. Such deposit shall be forfeited on failure to perform or non-fulfillment by the Contractor of the terms and conditions of the Contract.

1.16.2 **Performance Security:** The Performance Security retained till end of Defect Liability period (1 year from the date of completion of work) shall be 3% of Contract Value or Cost of Work Done, whichever is higher. So, initially 3% of the Contract value shall be furnished as Performance Security.

In case, whether the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills,

- while making payment, which will be released along with the Performance Security only.
- 1.16.3 The Security Deposit/ Performance Security @ 3% of the value of the contract awarded, shall be furnished by the Contractor to the Employer, not later than **14 days** from the date of letter of acceptance or such extension of that period as may be permitted by the Engineer in writing, and shall be furnished in one of the following forms:
- i) Banker's Cheque/Demand Draft/Pay Order of a Scheduled Bank.
 - ii) An irrevocable Bank Guarantee (BG) enforceable and encashable at Cochin, drawn from any Scheduled Bank operating in India as per the prescribed proforma.
- 1.16.4 The Security Deposit/ Performance Security retained till end of Defects Liability Period (**1 year from the date of completion**) shall be 3% of Contract Value or Cost of Work Done, whichever is higher. So, initially 3% of the Contract value shall be furnished as Performance Security. **The BG furnished towards the Performance Security shall be valid until a date 30 days from the day of expiry of the Defect Liability Period stipulated as per the terms of the Contract.**
- 1.16.5 Unless Performance Security is furnished within the period as specified above or such extension of that period as may be permitted by the Engineer in writing, tenderer will be suspended and shall not be eligible to participate in the tenders invited by COCHIN PORT AUTHORITY for a period of **Two Years from the date of such suspension order.**
- 1.16.6 **Retention Money:** NIL. In case, where the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills. While making payment, which will be released along with the Performance Security only.
- 1.16.7 Deleted.
- 1.16.8 **The Performance Security retained till end of Defect Liability Period (1 Year from the date of completion) shall be 3% of Contract Value or Cost of Work Done, whichever is higher.**
- 1.16.9 If the Cost of Work done exceeds the Contract Value, the total amount retained as Security Deposit considering the Performance Security initially submitted together with the Additional Security Deposit recovered from the running account bills, shall amount to 3% of the Cost of Work done.
- 1.17 EMD shall be refunded to the Contractor on acceptance of Performance Security and entering into agreement.
- 1.18 In the event of the tenderer, after the issue of the communication of acceptance of offer by the Board, failing /refusing to execute the agreement as hereinafter provided, the tenderer shall be deemed to have abandoned the Contract and such an act shall amount to and be construed as the Contractor's calculated and willful breach of the Contract, the cost and consequence of which shall be to the sole account of the tenderer and upon such an event, the Board shall have full right to

claim damages therefore either together with or in addition to the forfeiture of Earnest Money Deposit.

1.19 Signing of Agreement:

1.19.1 The successful tenderer will be required to execute within **21 days** from the date of receipt of work order, an agreement at his expense on proper value Kerala State Stamp Paper in the prescribed departmental form, consisting of:

- a) The Tender Notice, all the documents including additional conditions/specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading there to, and
- b) General Conditions of Contract-2016 (GCC), for the due and proper fulfillment of the Contract.

1.19.2 The Contractor shall make 10 copies of the Agreement and submit to CoPT within 7 days following the date of signing of Agreement.

1.20 Till signing of agreement the tender together with the acceptance letter shall constitute a binding Contract between the Contractor and Cochin Port.

1.21 Failure to comply with conditions **1.13, 1.16 and 1.19** above will entail forfeiture of the Earnest Money.

1.22 Tenders received shall be considered for acceptance, only if it meet the Minimum Qualification Criteria stipulated below:

Minimum Qualification criteria required for considering tenders:

(i) Experience:

The tenderer should have successfully completed at least:
one similar work of value not less than Rs.5.94 lakhs

OR

two similar works, each of value not less than Rs.3.71 lakhs

OR

three similar works, each of value not less than Rs.2.97lakhs,
during the preceding seven years ending **31st May, 2022**.

Explanatory notes:

- (a) Similar work(s) means ***“Providing pipe lines (Fresh water/ Oil/ Gas) using various types of pipes”***.
- (b) The experience certificate of works executed in private sectors/organizations, shall be considered for qualification, only on submission of TDS certificate along with work order and completion certificate.
- (c) Copy of completion certificates of each work issued by the owner/responsible officer of the owner under whom he has executed such contract shall be attached. The certificate shall contain details of work involved specifying the nature of work, the completion cost of the work, date of commencement & date of completion of the work.
- (d) The works reckoned for the above purpose are those executed by the tenderers as prime Contractor or proportionately as member of joint venture

or sub Contractor. The subcontractor shall be an authorized and approved sub-Contractor by the Employer of the work(s) against which the tenderer has claimed his experience. The tenderer shall attach attested copy(s) of approval issued by the Employer(s) authorizing as a sub-Contractor; in proof of the claim of the tenderer as a sub-Contractor. The tenderer is also obliged to produce the original of the certified copy(s) on request by the department.

- (e) Following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works completed in the past years.

Year before	Multiplying factor
One year	1.07
Two years	1.14
Three years	1.21
Four years	1.28
Five years	1.35
Six years	1.42

(ii) **Financial Turnover:**

Average Annual Turnover of the tenderer during the last three financial years ending 31st March 2021 shall not be less than Rs.2.23 lakhs.

In proof of this Audited Annual Accounts Statements or IT returns duly acknowledged by the Income Tax department along with computation statement signed by the Auditor/ Chartered Accountant, for the last three years shall be produced by the tenderer.

- 1.23 Tenders which do not fulfill all or any of the above conditions or which contain any other condition of any sort including conditional rebates or are incomplete in any respect is liable for rejection. Such tenders shall be entered in the tender opening register but their rates shall neither be read out nor entered in the register. Only remark mentioning the reason of rejection in brief shall be appended against such entry.
- 1.24 Canvassing in connection with tender is strictly prohibited and tenders submitted by the Contractors who resort to canvassing will be liable to rejection.
- 1.25 The tenderer shall specify the PAN No. allotted to him so that Chief Engineer/ Executive Engineer can ascertain his liability to the Income Tax Department.
- 1.26 The tenderer shall furnish documentary evidence in support of Goods & Service Tax (GST) Registration.
- 1.27 Tender Documents can be seen at Chief Engineer's Office during working hours on all days except on Sundays, second and fourth Saturdays and Public Holidays.
- 1.28 MSME Bidders who are registered with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Village Industries Board (KVIB) or Coir Board or National Small Industries Corporation (NSIC) or

directorates of Handicrafts and Handlooms or Udyog Aadhaar Memorandum or any other body specified by Ministry of MSME for similar nature of Works shall be eligible for issue of Bid Document free of cost and exemption from payment for issue of tender document. They are required to submit documentary proof of such registration along with the offer, as detailed in Instructions to Bidders, for claiming the available exemptions and a scanned copy of Exemption Certificate duly notarized shall be uploaded in the e – Tender Portal. If the Registration Certificate does not pertain to the Category of ‘Similar Works’ mentioned above, the Tender will be rejected.

1.29 Taxes and Duties:

- 1.29.1 Deductions towards statutory taxes as per the rules, prevailing in force at the time of payment of bills shall be made while releasing the bill amount.
- 1.29.2. GST for the work will be paid extra by the Port. The GST applicable as per law can be billed on the Port Authority, which will be paid to the Contractor by the Board along with the bills, for which the Contractor holds valid GST Registration number and the GST is being collected. The following are also to be considered while claiming payment towards GST:
 - i. Invoice in specific format should be provided by the Contractor for every payment.
 - ii. GST Registration Number of COCHIN PORT AUTHORITY and the Contractor is to be clearly mentioned with all the bills.
 - iii. Invoice should be attached along with the running bills.
 - iv. The Contractor shall comply all the GST regulations, viz.; timely uploading of invoices and issue of debit/ credit notes.
- 1.29.3. Any stipulation by a tenderer that taxes and duties deductible from these bills should be borne by the Port Authority will result in the summary rejection of his /their tender.
- 1.30 Cess as per Building and other Construction Workers Welfare Cess Act (Act 28 of 1996) at the rate of one percent or at the rates prevailing in force at the time of payment of bills, of the cost of construction should be borne by the Contractor and the same will be deducted from Contractor’s bills while making payment or when crediting amount to Contractor’s account.
- 1.31 The undersigned reserves the right to reject/cancel/postpone any one or all tenders at any stage of the tender, which will be binding on all bidders.
- 1.32 This Tender Notice shall form part of the Contract.

**Chief Engineer
COCHIN PORT AUTHORITY
FOR AND ON BEHALF OF THE BOARD OF MAJOR PORT
AUTHORITY FOR COCHIN PORT**

2. TENDER FOR WORKS

To

**The Board of
Major Port Authority
for Cochin Port
Through
The Chief Engineer
Cochin Port Authority, Cochin-9**

I/We hereby tender for the execution of the work specified in the underwritten memorandum within the time specified in such memorandum at the rates specified in the schedule attached hereto and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in 'clause 16' of the General Conditions of Contract and with such materials as are provided for, by and in all other respects in accordance with such conditions so far as applicable.

MEMORANDUM

- a) General description of work : **Providing fresh water pipe line (100 mm dia) from STB pump house to NTB & OTB**
- b) Estimated cost : **Rs.7,42,520/-**
- c) Earnest Money : **Rs.7,430/-**
- d) Security Deposit : 3% of the value of the Contract awarded or value of the work done whichever is higher. (Performance Security @ 3%)
- e) Percentage, if any, to be deducted from the bills : In case, Where the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills, while making payment, which will be released along with the Performance Security only.
- f) Time allowed for commencement of work from the date of receipt of work order : **7 days**
- g) Time allowed for the work from the date of commencement of work : **4 Months**

h) Schedule, specifications, conditions, : As per “Contents” sheet attached.
drawings etc.

Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of Contract annexed here to so far as applicable or in default thereof forfeit and pay to the Board the sum of money mentioned in the said conditions and to execute an agreement with the Board in the prescribed form or in default thereof to forfeit the Earnest Money deposited by me/us. The sum of Rs..... has been deposited with Financial Adviser and Chief Accounts Officer of the Port Authority as Earnest Money: (a) the full value of which is to be absolutely forfeited to the Board in office without prejudice to any other rights or remedies of the said Board in office should I/We fail to commence the work specified in the Contract Data or should I/We not deposit the full amount of Performance Security specified in the Contract Data in accordance with clause 52 of the said conditions of Contract otherwise the said sum of Rs. shall be retained by the Board as on account of such security deposit as aforesaid; or (b) the full value of which shall be retained by the Board on account of the security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Contract Data and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 40.3 of the Conditions of Contract.

Dated the day of 2019

Signature of the Tenderer

Address :

Witness :

Address :

Occupation :

ACCEPTANCE

The above tender is hereby accepted by me for and on behalf of the Board.

Dated theday of2019.

Dated.....

Chief Engineer

COCHIN PORT AUTHORITY

3. CONTRACT DATA

Items marked “N/A” do not apply in this Contract.

Sl. No.	Description	Reference Clause No. in GCC												
1	<i>The following documents are also part of the Contract</i>													
	The Schedule of other Contractors	(8.2)												
	The Schedule of Key personnel – As per Tender	(9)												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qualification of Staff</th> <th style="text-align: center;">No.</th> <th style="text-align: center;">Min. Experience (Years)</th> <th style="text-align: center;">Rate of recovery in case of non-compliance</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Graduate Engineer or Diploma Engineer</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Rs.15,000/- p.m</td> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">5</td> <td style="text-align: center;">Rs.15,000/- p.m</td> </tr> </tbody> </table>	Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non-compliance	Graduate Engineer or Diploma Engineer	1	2	Rs.15,000/- p.m		1	5	Rs.15,000/- p.m	
Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non-compliance											
Graduate Engineer or Diploma Engineer	1	2	Rs.15,000/- p.m											
	1	5	Rs.15,000/- p.m											
2	The Employer is:	(1)												
	The Board of Major Port Authority for Cochin Port, COCHIN PORT AUTHORITY, Cochin -9.													
	Name of Authorized Representative:													
	Name : Dr. M. Beena, Chairperson, Cochin Port Authority, Cochin -9.													
3	The Engineer is													
	Name : Shri. Paritosh Bala, Chief Engineer, Cochin Port Authority, Cochin-9.													
	Name of Nominee/Engineer-in-Charge: Name: Sri. Sathyan.A.G, Suptdg. Engineer(CM)													

Sl. No.	Description	Reference Clause No. in GCC				
4	Name of Contract- Providing fresh water pipe line (100 mm dia) from STB pump house to NTB & OTB. Tender No. T6/T-1968/2022-C	(1)				
5	10 copies of Contract Agreement shall be furnished by the Contractor	(7.1)				
6	Tender document and other data are available at Cochin Port web site, Government of India CPP Portal and e – tendering portal. www.cochinport.gov.in www.eprocure.gov.in www.tenderwizard.com/CPT	(7.2)				
7	The Intended completion date for the whole of the Work is 4 months with the following milestones:	(17,28)				
8	<table border="1" data-bbox="313 1129 1149 1381"> <thead> <tr> <th data-bbox="313 1129 732 1255">Physical works to be completed</th> <th data-bbox="732 1129 1149 1255">Period from the date of receipt of LoA to proceed with the work</th> </tr> </thead> <tbody> <tr> <td data-bbox="313 1255 732 1381">4 months</td> <td data-bbox="732 1255 1149 1381">7 days</td> </tr> </tbody> </table>	Physical works to be completed	Period from the date of receipt of LoA to proceed with the work	4 months	7 days	
Physical works to be completed	Period from the date of receipt of LoA to proceed with the work					
4 months	7 days					
9	<p>The following shall form part of the Contract Document:</p> <ol style="list-style-type: none"> (1) Agreement (2) Letter of Acceptance (3) Bill of quantities (4) Contractor’s Bid (5) Correspondence exchanged after the opening of the Bid and before the issue of Letter of Acceptance by which the Condition of Contract are amended, varied or modified in any way by mutual consent (to be enumerated). (6) Contract Data (7) General Conditions of Contract (8) General Description and Special Conditions of 	(2.3)				

Sl. No.	Description	Reference Clause No. in GCC
	Contract (9) Technical Specifications (10) Drawings if any and (11) Any other documents listed in the Contract Data as forming part of the Contract.	
10	The Contractor shall submit a Program for the Works within 21 days of date of the Letter of Acceptance.	(27)
11	The site possession date The site will be handed over within 7 days after issue of LoA.	(21)
12	The start date shall be 7 days from the date of receipt of the Letter of Acceptance (LoA) by the Contractor.	(1)
13	The site is located in W/Island.	
14	The Defects Liability Period: One year from the date of completion of the work.	(36)
15	The minimum insurance cover for physical property, injury and death is Rs. 10 lakhs (Rupees Ten lakhs) per occurrence with the number of occurrences unlimited. After each occurrence, Contractor will pay additional premium necessary to make insurance valid always. Also refer Clause 4 of Special Conditions of Contract – Section III of this tender document.	(13)
16	The following events shall also be Compensation Events: NIL	(44)
17	The period between Programme updates shall be 30 days.	(27)
18	The amount to be withheld for late submission of an updated programme shall be ----- NA	(27)
19	The language of the Contract documents is English.	(3)
20	The law, which applies to the Contract, is the law of Union of India.	(3)
21	The currency of the Contract is Indian Rupees.	(46)
22	The proportion of payments retained (Retention Money) shall be 3% from each bill subject to a maximum of 3% of the contract price.	(48)

Sl. No.	Description	Reference Clause No. in GCC
23	The maximum amount of Liquidated Damages for the whole of the works is 10% of the Contract Price.	(49)
24	The amounts of the advance payments :	(51)
	The advance payments as applicable to the contract are: NA	
25	Repayment of advance payment for mobilization: NA	(51)
26	Repayment of advance payment for Construction and equipment: NA	(51)
27	Repayment of Secured Advance	(51)
28	The date by which “as-built” drawings are required is within 90 days of issue of certificate of completion of whole or section of the work, as the case may be: NA	(58)
29	The amount to be withheld for failing to supply “as built” drawings and/or operating and maintenance manuals by the date required is ----- NA	(58)
30	Schedule of Rates Applicable: CPWD DSR 2018 + 55% Cost Index x 0.8768 for deducting GST.	
31	Base Rate for materials to be considered for price variation NA	(47)
32	Permissible wastage on theoretical quantities of (a) Cement : (+) 2% (b) Steel Reinforcement and structural steel sections for each diameter, section and category : (+) 5.99 % (c) Bitumen/Bitumen emulsion : (+) 2.5%	(47)

4. INSTRUCTIONS TO TENDERERS

- 4.1 Electronic Tenders (e-tenders) on percentage basis under “Two Cover system” are invited for **“Providing fresh water pipe line (100 mm dia) from STB pump house to NTB & OTB.”**
- 4.2 The tenderer shall submit the tender Cover-A (Hard Copy of EMD & Cost of Tender form). All the Technical Bid documents & Price Bid shall be submitted **“online”**.
- 4.3 The Tender Document will be available as three separate files in the e-tendering Portal:
- i. A. Technical Bid Documents (as per Sl. No 1 to 7 of the Contents sheet)
 - ii. B. Price Bid: Schedule of quantities of Work- Schedule-A and
 - iii. C. General Conditions of Contract-2016
- 4.4 The tenderer shall upload the documents indicated in 4.3 (i) & (iii) above and also the Schedule of Quantities(Percentage) [as per Cl.4.3(ii), duly filled in, **“online”**].

4.5 SUBMISSION OF TENDERS

- 4.5.1 The Cover A shall contain – hard copy of EMD as described in Clause 1.9.1 of Tender Notice & Cost of Tender form as mentioned in Clause 1.2 of Tender Notice shall be submitted **within 3 (THREE) working days from the Bid Due date**.

4.5.2 Technical Bid (Online mode)

Technical Bid shall contain all technical and commercial details except Schedule of Quantities. It shall consist scanned/ soft copies of the following documents.

- a) A covering letter from the tenderer enlisting the enclosures/ attachments.
 - b) Original Tender Document (Technical Bid) except Schedule of Quantities.
 - c) Copy of the documents in proof of fulfillment of the Minimum Qualification Criteria.
 - d) Copy of PAN Card, ESI/EPF & GST Registration documents.
 - e) Copy of Authorisation documents of Signatory of the bid in case of Registered Partnership firm / Limited company
 - f) Partnership deed or Memorandum and Article of Association of the company and registration certificate of the company as the case may be.
 - g) Any other relevant document.
- 4.5.2.3 Scanned copies of all documents as per Clause 4.5.2, EMD and Cost of Tender Form shall be submitted as “Technical Bid”.
- 4.5.2.4 Departmental Tender Document (except Schedule of Quantities), along with scanned copies of Cost of Tender form, EMD and other documents as per Clause

4.5.2 shall be submitted ‘**online**’ before 14.30 hrs of opening date of the Tender. **In no case shall filled in Price Bid - Schedule of Quantities be submitted in hard copy, as it shall result in rejection of the tender.**

4.5.3 Price Bid:

4.5.3.1 Price Bid shall contain only the “Schedule of Quantities”, which shall be **submitted only in e-tendering mode.**

4.5.3.2 **Tenderer should ensure that his tendered percentage as per ‘Price Bid’ is not mentioned anywhere in any other documents, directly or indirectly. If any such mention is made, the tender will become invalid and shall become liable for rejection.**

4.6 PRE-QUALIFICATION CRITERIA

4.6.1. Selection criteria for qualifying the tenderers for opening the Price Bids in Cover ‘B’ of the tender will be as below:

(i) Experience :

The tenderer should have successfully completed at least one similar work of value not less than Rs.5.94 lakhs

OR

two similar works, each of value not less than Rs.3.71 lakhs

OR

three similar works, each of value not less than Rs.2.97 lakhs, during the preceding seven years ending 31st May, 2022.

Explanatory notes:

- a) Similar work(s) means “*Providing pipe lines (Fresh water/ Oil/ Gas) using various types of pipes.*”
- b) Copy of completion certificates of each work issued by the owner/ responsible officer of the owner under whom he has executed such contract shall be attached. The certificate shall contain details of work involved specifying the nature of work, the completion cost of the work, date of commencement & date of completion of the work.
- c) The experience certificate of works executed in private sectors/ organisations, shall be considered for qualification, only on submission of TDS certificate along with work order and completion certificate.
- d) The works reckoned for the above purpose are those executed by the tenderers as prime Contractor or proportionately as member of joint venture or sub Contractor. The sub-Contractor shall be an authorized and approved

sub-Contractor by the Employer of the work(s) against which the tenderer has claimed his experience. The tenderer shall attach attested copy(s) of approval issued by the Employer(s) authorizing as a sub-Contractor; in proof of the claim of the tenderer as a sub-Contractor. The tenderer is also obliged to produce the original of the certified copy(s) on request by the department.

- e) Following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works completed in the past years.

Year before	Multipling factor
One year	1.07
Two years	1.14
Three years	1.21
Four years	1.28
Five years	1.35
Six years	1.42

(ii) **Financial Turnover:**

Average Annual Turnover of the tenderer during the last three financial years ending 31st March 2021 shall not be less than Rs.2.23 lakhs.

In proof of this Audited Annual Accounts Statements or IT returns duly acknowledged by the Income Tax department along with computation statement signed by the Auditor/ Chartered Accountant for the last three years shall be produced by the tenderer.

4.7. OPENING AND EVALUATION OF TENDERS

4.7.1 Technical Bids of the tenders received shall be opened at 15.00 hrs. on **04/07/2022**, the last date fixed for receiving the bid, in the SE's chamber in the presence of the tenderers or their representatives as may be present.

4.7.2 After opening the Technical Bid documents, it shall be thoroughly checked for completeness with respect to the details stipulated to be submitted as Technical Bid by the tenderer. The Price Bid of those tenderers satisfying the tender requirements shall only be opened. The Price Bid of those tenderers who are found responsive and satisfactory on evaluation of Technical Bid documents, will be opened after bringing all tenderers to the same footing and giving notice to the short listed tenderers, on a date to be decided and intimated later.

4.8 GENERAL INSTRUCTIONS TO TENDERERS

4.8.1 The submission of a tender by the tenderer implies that he has read the whole tender Documents including GCC-2016.

4.8.2 The tenderer is advised to visit and examine the site of work and its Surroundings, discuss with connected agencies and collect all necessary information on his own responsibility for preparing the tender.

- 4.8.3 The tenderer is expected to examine the Tender Documents including all conditions, specifications, forms etc and also conditions in the G.C.C. Failure to furnish the information required in the Tender Documents/ G.C.C. or submission of a tender not conforming to the requirements in every respect, is likely to result in the rejection of the tender.
- 4.8.4 The tenderer shall quote for the work on percentage basis. The departmental rate for each item of work is given in the Schedule of Quantities. The tenderer shall fill the percentage above or below the Departmental rate, in the column provided for the purpose in the Schedule.
- 4.8.5 In case of discrepancy between the specifications and the drawings, the following order of preference shall be observed:
- a. Conditions & Specifications of tender
 - b. Drawings.
 - c. B.I.S Specifications.
 - d. Sound Engineering Practice.
- 4.8.6. If there are varying or conflicting provisions made in any document forming part of the Contract, the Chief Engineer, Cochin Port Authority, Cochin-682009 shall be the deciding authority with regard to the intention of the document which will be binding on the tenderer/ Contractor.
- 4.8.7 Any error in description, any omissions there shall not vitiate the Contract or release the Contractor from the execution of whole or any part of the works comprised therein according to specifications or from any of his obligation under the Contract.
- 4.8.8 The Chief Engineer, Cochin Port Authority shall have the right to omit or Suspend certain items of work or revise or amend the Tender. Documents at any time prior to the due date of submission of the tender. Such revisions or amendments or extensions if any, shall be communicated to all the bidders who have downloaded the Tender Documents, in the form of an addendum by telefax /e- mail / writing. In order to afford the Bidders with reasonable time to take addendum into account, or for any other reason, the Port Authority may, at its discretion, extend the due date for submission of tender.
- 4.8.9 All payments due to the Contractor under this Contract will be made in Indian Rupees only.
- 4.8.10 Tenders received after the date specified for submission shall not be opened.
- 4.8.11 The Bank Guarantees (BGs) to be furnished by the Contractors in connection with the tender shall be sent to by the Chief Engineer, Cochin Port Authority directly by the issuing bank under registered post with AD. The Contractor shall take the responsibility of sending BGs directly to the Port Authority by the issuing bank.

SIGNATURE OF TENDERER.

5. GENERAL DESCRIPTION AND SPECIAL CONDITIONS OF CONTRACT

1. SCOPE OF WORK

- 1.1 The proposed work is for “**Providing fresh water pipe line (100 mm dia) from STB pump house to NTB & OTB**”. The work consists of the following:
- i. Brick work & Plastering work in Cement Mortar;
 - ii. Providing and laying S&S Centrifugally Cast Ductile Iron Pipes, Providing and fixing C.I. sluice valves, Providing and laying flanged C.I. standard specials etc.
 - iii. Structural steel work, Supplying and fixing 5.8 grade fully treaded GI anchor rod
 - iv. Painting with Iron Primer & Synthetic Enamel paint and
 - v. Constructing brick masonry manhole in cement mortar.
- 1.2 The work shall be meticulously planned in consultation with the departmental supervisory staff and nearby users, so that minimum inconvenience is caused to the functions of the wharf.

2. WORK SITE

The work has to be carried out at Oil Tanker Berth at Ernakulam. The site is accessible through road and water. The work site is operational and protected area and hence security rules and regulations including obtaining passes etc. for work are to be observed by the contractor. The work is to be carried out without disturbing the normal Port operations.

3. TIME SCHEDULE AND MONITORING OF PROGRESS

- 3.1 The tenderer shall prepare and attach with the tender a detailed work schedule indicating key activities and critical items for completing the work within the stipulated Contract period of 4 (**Four**) months. This time schedule will form the basis for monitoring the progress of work.

4. MATERIALS / FACILITIES TO BE PROVIDED BY DEPARTMENT

4.1. CONTRACTOR'S WORK AREA

Space will be made available to the Contractor free of rent for storing materials and equipments etc., adjacent to the work site for the duration of the Contract. After the work is over, Contractor shall at his cost, reinstate the area by clearing the temporary works, debris etc. as decided by the Engineer's Nominee.

5. CONTRACTOR'S RESPONSIBILITY

- 5.1 The tenderer shall visit the area before tendering. It will be deemed that the tenderer has visited the site and studied the site conditions before submitting the tender. The tenderer should get himself acquainted with the nature and extent of the work. No claim whatsoever will be entertained on the plea of ignorance of difficulties involved in execution of work or carriage of materials etc.
- 5.2 All materials, plants and equipments, required for the work shall be provided by the Contractor at his own cost, and shall conform to relevant I.S. Specification unless otherwise specified.
- 5.3 Samples of all materials, to be incorporated in the work shall be got approved by the Engineer's Nominee before procurement.
- 5.4 The Contractor shall thoroughly study the specifications and errors / omissions/modifications if any shall be brought to the notice of the Engineer – in-Charge well in advance so that a final decision in the matter could be given in time.
- 5.5 All labour, skilled or unskilled shall be provided by the Contractor. Settling any dispute with the labour will be Contractor's responsibility. Insurance as per Indian Workmen's Compensation Act for the Contractors' workmen and Public Liability Policy shall be provided by the Contractor at his own cost.
- 5.6 The Contractor shall be solely responsible for any damage or injury to the persons or things caused or suffered during the execution of the work and shall be made good or compensated at his own cost.
- 5.7 The Contractor shall take all care and precautionary measures for avoiding any kind of damage/accidents in the work site due to any of his reasons. The Contractor shall indemnify the Port against any compensation whatsoever payable to the workmen for accident or loss arising out of and in the course of their employment under this Contract.
- 5.8 The work shall be arranged by the Contractor without causing any damage to Port structures. Any damage or accident caused by the Contractor's operation shall be compensated / made good at Contractor's risk and cost to the satisfaction of the Engineer's Nominee of the works, failing which department will do the rectification work and the cost incurred will be recovered from his bill or from security deposit.
- 5.9 The Contractor shall not construct any structure, even of temporary nature, for any purpose at site, except with the written permission of the Engineer's Nominee of the work and any construction so put up shall be removed by the Contractor whenever the Engineer's Nominee calls upon the Contractor to do so.
- 5.10 The Contractor shall remove all temporary works, clear and make good the site, at

his cost to the satisfaction of the Engineer's Nominee before the site is returned to the Port Authority. All materials shall be disposed to any place as pointed out by the Engineer's Nominee of the work and site shall be cleared in every respect at no extra cost after completion of work.

- 5.11 The Contractor shall remove all materials brought to work site / stacked at the work site or anywhere else within the Port area and clear the site at his cost to the full satisfaction of the Engineer's Nominee before the site is returned to the Port Authority. All such materials including debris, tools & plants etc. shall be disposed off to any place as pointed out by the Engineer's Nominee or be taken away from the location and shall be cleared in every respect and to reinstate to its original condition at no extra cost to the Port Authority immediately after completion of the work. In case, any such material is found left in the work site or anywhere in the Port area, rent for the storage space occupied by the Contractor, either for stacking the materials /debris or for areas used for such purpose but not cleared thereafter, will be recovered as per the prevailing Scale of Rate of Cochin Port Authority, for the rent applicable for open storage space for commercial purpose, for the period for which the area had been occupied by the Contractor. In addition to the above, in case the Port requires the area immediately for its use, Port will repossess the land after restoring it to its original condition, material will be confiscated and disposed off at the risk and cost of the Contractor, after issuing two notices giving 15 days' time each for removing the material. All expenses incurred in this shall be recovered by disposing off the material if any confiscated. If any balance amount still remains to be realized that will be recovered from the Contractor by appropriate means.
- 5.12 The Contractor shall observe all safety regulations during the execution of the work. Safety measures, precautions, warning signals etc. shall be taken/provided at the Contractor's cost, as directed by the Engineer-in-Charge of the work. The Contractor shall provide all necessary personnel protection equipments such as helmet, lifeguard, goggles, boots, safety belts etc. to the workmen at his own cost and it shall be the Contractor's responsibility to ensure that they use it while on the work site.
- 5.13 The Contractor shall ensure that no labourers with criminal background are engaged for the work.
- 5.14 The contractor shall take all precautions for not to damage any cables, pipelines etc. passing through the area of work.
- 5.15 The Contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, Public Liability Policy, Provident Fund Regulations, Employees Provident Fund and ESI Act etc. amended from time to time and rules framed there under and other laws affecting the Contract labour that may be brought in to force from time to time.

5.16 The bidders having EPF/ ESI registration certificates only shall be considered for qualification in the tenderers, if applicable, as per EPF /ESI Acts. In case, the Tenderer does not have the required number of employees which makes such registration mandatory, an Undertaking to the effect shall be furnished.

5.17 The Contractor shall provide, at every work place, at which 20 or more women workers are ordinarily employed, crèches of reasonable size and with adequate facility for the use of their children under the age of six years at his risk and cost.

5.18 The Contractor shall also be responsible for arranging and carrying out works as mentioned in Clauses 1.1 & 1.2 above.

5.19 Defect Liability period of the work is one year from the date of completion of the work.

6. POWER AND WATER

6.1 Electric power required for the work can be supplied by the department from the nearest existing line of the Port Authority at prevailing rates. The cost of drawing temporary lines/ cables/ providing switches and making connection and metering arrangements etc, shall be borne by the Contractor. If there is any disruption in the power supply due to supply failure/ restrictions imposed by the Kerala State Electricity Board, the department shall not be held responsible and the Contractor has to make suitable alternative arrangements at their cost.

6.2 Water required for the work shall be arranged by the Contractor at his own cost.

7. WORKMANSHIP

7.1 All the works shall be done strictly according to relevant B.I.S. specifications unless otherwise specified. Whenever special conditions and other specifications deviate from the B.I.S. the former shall prevail.

7.2 The whole work shall be completed in a diligent manner within the Contract period and defect or imperfection if any, observed during the Defect Liability Period/ guarantee period the same shall be rectified at Contractor's cost to the full satisfaction of the Engineer's Nominee within the time allowed.

7.3 Precautions shall be taken for not to damage cables/ pipe lines etc.

7.4 The work shall be arranged in the order of preference and as directed by the Engineer's Nominee of work.

8. TEMPORARY WORKS

8.1 All scaffolding, staging, bracing and other temporary works required for proper execution of the works, shall be provided by the Contractor at his own cost, unless stated otherwise and that should be inclusive of all materials, labour, supervision and other facilities. The layout and details of such temporary works shall have prior approval of the Engineer's Nominee, but the Contractor shall be responsible

for proper strength and safety of the same. All temporary works shall be so constructed as not to interfere with any permanent work or with the work of other agencies. If it is necessary to remove any of the temporary works at any time to facilitate execution of works or work by other agencies, such removal and re erection, if required, shall be carried out by the Contractor at the direction of Engineer's Nominee without any delay and any extra cost on this account shall be borne by the Contractor.

- 8.2 On completion of the works, temporary works if any provided by the Contractor shall be removed from the site and the area shall be reinstated to the original condition at his own risk and cost.

9. TIME FOR COMPLETION

- 9.1 The time allowed for carrying out the work as mentioned in the memorandum shall be strictly observed by the Contractor. The work shall throughout the time period be proceeded with diligence, time being deemed to be the essence of the Contract. The number of days lost due to heavy rain shall be certified by the Engineer's Nominee. The Contract period shall be extended for such certified days also without imposing compensation for delayed performance.

- 9.2 The whole work shall be completed in accordance with the provisions under Contract Data or such extended time as may be allowed as per clause 29 of G.C.C.

10. WORKING TIME

The normal working time of the Port Authority is from 8 a.m. to 4.00 p.m. on all weekdays. If the Contractor wishes to carry out the work beyond normal working hours and or on holidays, he should get specific approval from the Engineer's Nominee for the same. Necessary supervision will be arranged by the department and the expenditure to be incurred in this connection will be borne by the department.

11. RATES FOR VARIOUS ITEMS

The rate specified for each item shall be all inclusive value of the finished work, income tax and other taxes but excluding Service Tax.

12. ALTERATIONS / ADDITIONS / OMISSIONS

The quantities given in the bill of quantities (Schedule of items) are only approximate and payment will be made as per actual quantity of work done and rate specified.

13. MEASUREMENT

The quantities shall, unless otherwise stated, be measured in accordance with I.S.1200.

14. For levying compensation as per Clause-49 of General Conditions of Contract (GCC), the Employer is not required to have documentary evidence to quantify or prove the losses suffered by the Employer due to delay in completion of work by the Contractor, as per conditions.
15. Clause-25 of GCC- 'Settlement of Disputes and Arbitration' is not applicable in this Contract.
16. Clause-26 of GCC- 'Computerised Measurement Book' is modified to the extent as detailed below.

Measurements of Work Done:

Executive Engineer (hereinafter called the Engineer's Nominee) shall, except as otherwise provided, as certain and determine by measurement the value in accordance with the Contract of work done.

All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the Contract.

All measurements and levels shall be taken jointly by the Engineer's Nominee or his authorised representative and by the Contractor or his authorised representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer's Nominee and the Contractor or their representatives in token of their acceptance. If the Contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.

If for any reason the Contractor or his authorised representative is not available and the work of recording measurements is suspended by the Engineer's Nominee or his representative, the Engineer's Nominee and the Department shall not entertain any claim from Contractor for any loss or damages on this account. If the Contractor or his authorised representative does not remain present at the time of such measurements after the Contractor or his authorised representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer's Nominee or his representative shall be deemed to be accepted by the Contractor.

The Contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in

accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The Contractor shall give not less than seven days' notice to the Engineer's Nominee or his authorised representative in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer's Nominee or his authorised representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer's Nominee's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer's Nominee or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this Contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the Contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

17. Clause 45 and Clause 80 of GCC shall be modified as below;

Clause 45-Rates for items to be inclusive of Taxes The rate quoted by the Contractor shall be inclusive of the cost of provision of plant and equipment, materials, labour, execution, supervision, maintenance, overheads and profits and every incidental and contingent cost and charges whatsoever excluding Goods and Service Tax (GST). GST as may be applicable from time to time shall be shown separately in the invoice. The Employer will perform such duties in regard to the deduction of such taxes at sources as per applicable law. Any new Taxes, levies, duties imposed after signing the Contract shall be reimbursed by the Employer on production of documentary evidence. The invoice to be submitted by the Contractor should include the GST Registration Number of the Contractor as well as the Employer.

Clause 80-Taxes and Duties Income Tax The Contractor and his staff shall be responsible for payment of all personal income taxes to the concerned authorities as per the law in force from time to time. Deduction of Income Tax shall be made

by the Employer from each certificate of payment to the Contractor at the rate of 2% plus surcharge or such other rates as may be specified by the Central Government from time to time, on the gross amount of the Contractor's bill for payment. The Contractor shall comply all the GST Regulations viz. timely uploading of bills, issue of debit/ credit notes etc.

18. Sub clause **43.2** under **Clause 43:Payments,.....** in GCC 2016 stands amended as given below:

43.2 Payment of bills for Civil Works shall be regulated as detailed hereunder:

43.2.1 Any Interim/Final bill which is incomplete in any respect shall be returned to the Contractor within 5 days of date of submission of bill to the Engineer or his Nominee.

43.2.2 Interim bills shall be paid within 21 days of date of submission of bills in full shape, by the Contractor, as detailed below.

43.2.3 Clarifications/corrections if any required on an Interim bill submitted, shall be sought from the Contractor within 4 days of submission of the bill and also, all such clarifications/corrections required shall be sought at one go except in exceptional circumstances. The Contractor shall submit the clarifications including carrying out corrections in the bill, if required, within 4 days thereafter. The clarified / corrected bill shall be verified and forwarded to Finance Department within the next 4 days. Clarifications if any required by the Finance Department shall be sought within 3 days and the Engineer/Nominee shall clear it on top priority within the next 3 days and, finally, the bill shall be paid to the Contractor within 3 days thereafter, i.e., within a total 21 days of date of submission of bills in full shape, as indicated above.

43.2.4 However, on request by the Contractor, 75% of the bill amount shall be paid within 7 days of submission of the bill. Balance amount of the verified bill shall be paid within 21 days of the submission of the bill, on completion of all contractual requirements as brought out at sub clause 43.2.3. above.

43.2.5 Final bill shall be paid within 3 months of issue of Taking Over

Certificate by the Engineer / Nominee, as detailed below.

- 43.2.6 The Contractor shall submit the Final bill to the Engineer / Nominee within 20 days of issue of Taking Over Certificate by the Engineer / Nominee. The bill shall be checked and all clarifications/corrections required on the bill submitted, shall be sought from the Contractor within 15 days thereafter. The Contractor shall submit the clarifications including carrying out corrections in the bill, if required, within the next 10 days. The clarified / corrected bill shall be verified and forwarded to Finance Department within the next 15 days. Thereafter, clarifications if any required by the Finance Department shall be sought within 10 days and the Engineer/Nominee shall clear it on top priority within the next 10 days and, finally, the bill shall be paid to the Contractor within 10 days thereafter, i.e., within a total 3 months of issue of Taking Over Certificate by the Engineer / Nominee, as indicated above.
- 43.2.7 However, on request by the Contractor, 50% of the final bill amount shall be paid within 7 days of submission of the bill, which will be adjusted against the final bill payment, on completion of all contractual requirements as brought out at sub clause 43.2.6. above.

SIGNATURE OF TENDERER

6. DETAILED SPECIFICATIONS FOR MATERIALS TO BE USED ON WORK

6.1 GENERAL

- 6.1.1 Except where otherwise specified or authorized by the Engineer-in-Charge, materials supplied by the contractor shall conform to the latest edition of the Indian Standard Specifications and code of practices published by the Indian Standard Institution. Samples of materials to be supplied by the contractor shall be shown to the Engineer-in-Charge sufficiently in advance for approval of its quality for use on the work.
- 6.1.2 All materials supplied shall be stored appropriately to prevent deterioration/damage from any cause what so ever and to the entire satisfaction of the Engineer-in Charge.
- 6.1.3 The materials required for the work shall be brought to the site and stacked at the places shown by the Engineer-in-Charge and the same shall be got approved for use in work sufficiently advance so that the progress of the work is not affected by the supply of materials.
- 6.1.4 Payment for the materials supplied, shall be given only after they are used on the work.
- 6.1.5 Tolls are payable by the Contractor as per rules for vehicles using the Port's road for supplying the materials.

6.2 BRICKS

- 6.2.1 Bricks used in the masonry may be Common Burnt Clay Bricks shall conform to IS:1077 and shall be hand moulded or machine moulded. They shall be free from nodules of free lime, visible cracks, flaws warpage and organic matter, have a frog 100 mm in length 40 mm in width and 10 mm to 20 mm deep on one of its flat sides. Bricks made by extrusion process and. Each brick shall be marked (in the frog where provided) with the manufacturer's identification mark or initials.
- 6.2.2 Bricks shall have a minimum compressive strength to 50kg/sq.cm and shall not absorb water more than 20% of its dry weight, when soaked in cold water for 24 hours. The tolerance limit shall be 8 % for absorption.
- 6.2.3 In the case where locally available bricks do not meet standard, contractor shall carryout all the tests specified above on the bricks and submit the test report to the Engineer-in-charge, who will take a final decision on the use of the bricks, which shall be binding.

6.3 CEMENT

- 6.3.1 Quality of cement used for the work shall be 43 grade ordinary Portland cement conforming to I.S. 8112 or 53 grade ordinary Portland cement conforming to I.S. 12269 or Pozzolona cement conforming to I.S. 1489 unless otherwise approved by the Engineer-in-Charge.
- 6.3.2 The cement required for the work will have to be procured by the contractor and shall comply with the relevant IS. As far as possible, the cement required for the work will have to be procured from the government agencies. The cement shall, if

required by the Chief Engineer / Engineer-in-Charge, be tested and analyzed by an independent analyst at the Contractor's cost and result produced to the Engineer-in-Charge.

- 6.3.3 Supply of cement shall be taken in 50kg bags bearing manufacture's name and ISI marking. Samples of cement arranged by the Contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant B.I.S codes. In case, test results indicate that the cement arranged by the Contractor does not conform to the relevant B.I.S codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.
- 6.3.4 A cement godown of adequate capacity as directed by the Engineer-in-Charge shall be constructed by the Contractors at the site of the work for which no extra payment shall be made. Double lock provision shall be made to the door of the cement godown. The key of one lock shall remain with the Engineer-in-Charge or his authorized representative and the key of the other lock shall remain with the Contractor. The Contractor shall be responsible for the watch and ward and safety of the cement godown. The Contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge.
- 6.3.5 The cement brought to the site and cement remaining unused after completion of work shall not be removed from the site without written permission from /of the Engineer-in-Charge.
- 6.3.6 The cement shall be stored in a weather proof building with facilities for inspection.
- 6.3.7 The Contractor shall maintain a cement register showing dates of receipt and issue, quantities used daily and balance which shall be accessible to the Engineer-in-Charge.

6.4 WATER

- 6.4.1 Clean fresh water free from oils, acids, alkalies, salt, sugar, organic materials or other harmful materials shall be used. The water used shall comply with clause 5.4 of I.S. 456-2000. Potable water is generally considered good.
- 6.4.2 **Cochin Port Authority will not provide/ supply water for the work.** Water has to be arranged by the Contractor himself for the construction works if necessary at his own risk and cost.
- 6.4.3 Samples of water arranged by the Contractor shall be taken by the Engineer in Charge and got tested in accordance with the provisions of relevant BIS codes. In case test results indicate that the water arranged by the Contractor does not conform to the relevant BIS codes, the same shall not be used for any works. The cost of tests shall be borne by the Contractor.

6.5 SAND FOR MAKING MORTAR FOR MASONRY WORK/ PLASTERING WORK

- 6.5.1 Sand used for making masonry mortar shall conform to IS 2116. Sand used for plastering shall conform to IS: 1542.

6.6 DUCTILE IRON PIPE WITH SOCKET & SPIGOT ENDS

- 6.6.1 Ductile Iron pipes shall conform strictly to IS:8329/2005. The pipe shall be of Class K-9 type with Spigot & Socket ends.
- 6.6.2 Each pipe shall be marked in accordance with IS:8329. Each pipe shall also be marked with ISI Certification mark.
- 6.6.3 Pipes shall be tested in accordance with IS 8329.

6.7 RUBBER GASKET

- 6.7.1 Rubber gasket shall conform to IS:638 and shall be of 6mm thickness. It shall be of grade I, type A or B as directed by the Engineer-in-charge.
- 6.7.2 Rubber Gasket used with Push-on joints or mechanical joints shall conform to IS-5382.

6.8 DUCTILE IRON FLANGED SPIGOT

- 6.8.1 Adaptors used for connecting valves in the line shall be flanged spigots and shall conform to IS: 8329.

6.9 DUCTILE IRON DETACHABLE JOINT (D.I.D JOINT)

- 6.9.1 D.I.D joint supplied shall conform to the details given under clause 5.5.9.2 of SP: 35 (S&T) – 1987. D.I.D joint set supplied shall be suitable for the connection of Ductile Iron pipe. The joint set shall be designated by the nominal bore of pipe to be connected. D.I.D joint set supplied shall consist of D.I. Collar, D.I. Flanges, rubber rings, bolts & nuts etc. for complete connection.

6.10 STRUCTURAL STEEL

- 6.10.1 The mild steel sections/ plates/ flats etc. used for the work shall conform to I.S. 2062. The material shall be free from visible as well as hidden defects such as pitting cracks, laminations, twists etc. and excessive rusting.
- 6.10.2 It is not necessary for the Contractor to obtain separate approval in case mild steel sections is purchased from Steel Authority of India Ltd. For purchase from other sources, the contractor shall apply sufficiently in advance and obtain written permission of the Engineer-in-Charge for making purchase from such sources.

6.11 SYNTHETIC ENAMEL PAINT

- 6.11.1 The Synthetic Enamel paint shall be of approved premium quality and shall conform to IS : 2923 (2003). The coverage shall conform to the Manufacturer's specification. The colour / shade shall be as per schedule or as per the directions of Engineer-in-Charge. The paint shall be brought to the site of work by the Contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least

a week's work. The materials shall be kept in the joint custody of the Contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of the work has been completed and permission obtained from the Engineer-in-Charge.

The Contractor shall invariably produce the Test Certificates and Bills with batch number and date, signed by an authorised person of the Manufacturer / Dealer, while seeking final approval of the Engineer-in-Charge for use on the Work.

6.12 MATERIALS NOT SPECIFIED

6.12.1 All materials not herein detailed and fully specified but which may be required for use on works, shall be subjected to the approval of the Engineer-in-Charge without which they shall not be used anywhere in the permanent works.

6.13 SAMPLING AND TESTING OF MATERIALS

6.13.1 Sampling and testing of the material supplied by the contractor for use on the Work shall be done as per the provisions of the relevant BIS codes/specifications. In the absence of BIS specification in a particular case, the sampling and testing shall be done as directed by the Engineer-in-Charge as per sound engineering practice. Material conforming to the specifications and approved by the Engineer-in-Charge shall only be used by the Contractor.

6.13.2 All the sampling and testing shall be done at the Contractor's cost.

SIGNATURE OF TENDERER

7. DETAILED SPECIFICATIONS FOR ITEMS OF WORKS

7.1 GENERAL

7.1.1 Except where otherwise specified or authorized by the Engineer-in-Charge, all items of works executed by the contractor shall conform to the latest edition of the Bureau of Indian Standard Specifications and code of practices published by the B.I.S. Where no such specifications or code of practice exists the latest B.S.S. codes of practice or any other equivalent / standard code of practice shall also be considered for adoption. The tenderer while indicating any such specifications shall enclose the full set of the publication so referred and not in extracts. Photostats / Xerox copies in duplicate shall be forwarded which shall not be returned to the contractor. In absence of any specification, the department deserves the right to adopt trade specifications and/or sound engineering practices for the specialized work as may be decided by the Engineer-in-Charge which shall be final, conclusive and binding on the contractor.

7.2 BRICK MASONRY

7.2.1 Brick masonry shall conform to IS: 2212. All bricks shall be thoroughly soaked in water for at least 6 hours before use. Brickwork shall not be raised more than 14 courses per day.

7.2.2 The grade of mortar shall be as specified in the Schedule of Quantities.

7.2.3 Joints shall be restricted to a thickness of 10mm unless otherwise required and shall be squarely raked to a depth of 12mm while the mortar is still wet and brushed.

7.2.4 Curing shall be done for 7 days.

7.2.5 Payment for brick masonry shall be made on cubic metre basis irrespective of thickness. The rate shall include all labour and materials including scaffolding.

7.3 CEMENT PLASTERING

7.3.1 Cement plastering shall be with the grade of mortar and of thickness specified in the schedule. The surface to be plastered shall be thoroughly cleaned and kept wet for 4 hours before plastering.

7.3.2 All the corners shall be rounded off to a radius of 25 mm unless otherwise specified.

7.3.3 Where smooth finishing is specified in the schedule the plastering shall be floated over with neat cement slurry using 2.2 kg of cement per square metre immediately after the final coat of plastering and rate quoted for plastering shall include cost of this finishing work.

7.3.4 The surface shall be cured for 7 days.

7.3.5 The rate shall include all labour and materials including scaffolding, curing etc. complete. required for completion of work. Measurement of the work under this head shall be made on the basis of the area of work done.

7.4 PROVIDING AND LAYING DUCTILE IRON (DI) K9 PIPE LINE

7.4.1 GENERAL

Pipe line shall be laid through the existing masonry/ concrete pedestals and reclamation wall. Pipes shall be fixed to the pedestal/ reclamation wall by using steel claps. Clamps shall be paid separately.

7.4.2 TRANSPORTING, LAYING, JOINTING AND TESTING OF PIPES.

Transporting, laying, jointing and testing of ductile Iron pipes shall be done as per the relevant IS.

7.4.2.1 TRANSPORTATION

Pipes, fittings, valves etc. shall be transported from the stacking place to the work site with sufficient care to avoid damage to them.

7.4.2.2 OTHER MATERIALS TO BE MADE AVAILBALE BY THE CONTRACTOR.

All other materials, required for jointing and laying pipes, including gasket, lubricant etc. shall be brought by the contractor at his own cost.

7.4.2.3 LAYING

The pipes shall be lifted and placed over the pedestals/ reclamation wall by means of suitable pulley blocks, shear legs, chairs, ropes etc. If no case the pipes shall be rolled, and dropped in to position. After placing the pipes in position, the pipes shall be arranged so that the spigot of one pipe is carefully entered into the socket of the next pipe and pushed to the full distance that it can go. The pipeline shall be laid to the levels required. Specials shall also be laid in their proper position as stated above. The pipe laid on the level ground shall be laid with socket end facing upstream.

7.4.2.3.1 At the end of each days work, the last pipe laid shall have its open ends securely closed with a wooden plug to prevent entry of water, soil, rats and any other foreign matter into the pipe. Fixing of valves and fittings shall be done as part of laying the pipe line as directed by the Engineer-in-charge.

7.4.2.4 JOINTING

7.4.2.4.1 Basic conditions to be ensured for jointing are

- (a). Cleanliness of all parts
- (b). Correct location of components.
- (c). Centralisation of spigot with socket and
- (d). Strict compliance with jointing instructions.

7.4.2.4.2 The inside of sockets and the outside of spigots should be cleaned for atleast the insertion depth for each joint. The materials required for jointing are gaskets, lubricant supplied by manufacturers.

7.4.2.4.3 Gasket should be wiped clean and inspected for damage. Where lifting gear has been used to place the pipe in the trench it should be used to support the pipe and as sit in centralising the spigot in the socket. Where the pipe line is suspected to be subject to movement due to ground settlement or temperature variation, a suitable gap should be left between the end of the spigot and bottom of the socket to ensure this, two band marks are made near the spigot end. After jointing the end of the socket must end between these two bands.

7.4.2.5 TESTING OF PIPE LINES FOR PRESSURE TEST & LEAKAGE TEST

7.4.2.5.1 Testing shall be done as per IS : 8329. Testing of pipe line shall be done after the entire length of line is laid or in sections according to the site conditions, as approved by the Engineer-in-charge.

a. PRESSURE TEST

Pressure test shall be carried out for a test pressure of 18 Kg/cm². The section shall be first subjected to test pressure normal to the area and the exposed parts shall be carefully examined. If any defects are found they shall be repaired and pressure test repeated until no defects are found. Prior to testing enough back fill shall be placed over the pipe line to resist upward thrust, if required. The open end of the section shall be sealed with an end cap having an outlet which can be served as an air relief vent or for filling the line. The blind face of the cap shall be properly braced during testing by screw jacks and wooden planks or steel plate.

The section of the line to be tested shall be filled with water manually or by a low pressure pump. Air shall be vented out. The test pressure shall be raised at the rate of approximately one Kg/ sq.cm / minute. The duration of initial tests shall be sufficient to make carefull check on the pipeline. Any cracked or defective pipes, fittings or valves discovered in consequence of this pressure test shall be removed and replaced by sound material and the test shall be repeated and defects rectified until all joints are seen water tight as approved by the Engineer-in-charge, without any extra cost. The final test shall be done by retaining the pressure for a minimum of one hour.

b. LEAKAGE TEST

The leakage test shall be conducted after the satisfactory completion of pressure test at a test pressure of 12Kg./Sq. Centimetre. The pipe line shall not show any sign of leakage or sweating.

7.4.3 PAYMENT

Payment shall be done in running metre basis measured centre line length. All specials, fittings, valves etc. will be paid under separate item. The rate quoted for providing pipe lines shall include the cost of materials like Gasket, lubricant,

solvent cement, bolts, nuts etc. to be made available by the contractor for jointing pipes, and testing the line as aforesaid.

7.5 STEEL FABRICATION WORK

- 7.5.1 The steel sections as specified shall be cut square accurately to correct lengths. The cut edges should be dressed to a neat and workmanship finish and be free from distortion where parts are to be in contact metal to metal. All materials shall be straight and if necessary, before being worked shall be straightened and/ or flattened and shall be free from twists.
- 7.5.2 The component parts shall be assembled and aligned in such a manner that they are neither twisted nor otherwise damaged and shall be so prepared that the specified camber, if any, is provided. Proper clamps, clips, jigs and other fasteners (bolts & welds) shall be placed in a balance pattern to avoid any distortion in the members and to ensure their correct positioning.
- 7.5.3 Welded connections shall be provided for joints except for the joints specially provided for erection purposes. For joints provided for erection purposes bolted connections shall be used.
- 7.5.4 All bolts shall be provided with washers of sufficient thickness. The threaded portion of each bolt shall project through the nuts at least one thread.
- 7.5.5 Welding shall be done in accordance with the specifications laid down in IS 816 and as per detailed working drawing or as directed by the Engineer in charge. Welding edges and the adjacent areas of the members (extending up to 20mm) shall be thoroughly cleaned of all oil, grease, scale and rust and made completely dry. Gaps between the members to be welded shall be kept free from all foreign matters. The welding procedure adopted and consumables used shall be got specifically approved by the Engineer-in-charge. Excessive convexity, shrinkage, cracks, under cutting, improperly fitted / misaligned parts, members distorted by the heat of welding etc. due to faulty welds shall be corrected- whole or portion- as directed by the Engineer-in-charge.
- 7.5.6 The steel sections as specified shall be straightened and cut square to correct lengths. The steel work shall be hoisted and placed in position carefully without any damage to itself and other structures and injury to workmen.
- 7.5.7 The suitability and capacity of all plants and equipments used for the work shall be to the complete satisfaction of the Engineer-in-charge.
- 7.5.8 Proper safety arrangements shall be provided for working and inspection at no extra cost wherever required.
- 7.5.9 If the fabrication is done outside the worksite premises the structural and fabrication should be subject to the inspection by the departmental officials. Suitable transport facilities shall be provided for the inspection staff.

- 7.5.10 The electrodes required for the welding work shall be got approved before use. The electrodes should be stored properly without exposing them to atmospheric action. Proper protection should be given for site fabrication. The welding must be carried out under a covered roof.
- 7.5.11 The contractor should possess plant and equipments, derricks. Lifting tackles, wire ropes, chain pulleys, jacks, welding sets etc. that may be required for fabrication and erection. The equipment being used shall be kept in good condition throughout.
- 7.5.12 Fabrication and erection of steel work shall be in accordance with the provision of IS 800.
- 7.5.13 All damages to steel works caused during the transit or otherwise at the time of fabrication or erection and after erection shall be made good at no extra cost.
- 7.5.14 All steel work shall be provided with one coat of iron primer Zinc Chromate. Before applying primer, all rust & scale shall be removed by scrapping or brushing with steel wire brushes. All dust & dirt shall be thoroughly wiped away from the surface. If the surface is wet, it shall be dried before priming coat is applied.
- 7.5.15 After completion of the required fabrication of members, the surface shall be well cleaned with wire brush and sandpapering as directed by the Engineer-in-charge and one coat of Zinc Chromate primer shall be applied. Before application of the primer coat all the welded joints shall be got inspected and approved by the Engineer in charge. All painting work shall be done after the erection of steel members in position. Any damage to the painted surface during the course of erection shall be rectified as directed by the Engineer In charge after fixing the members in position. The fasteners like bolts, nuts etc. used during erection shall also be painted with a coat of primer and two coats of bituminastic paint
- 7.5.16 Sequence of erection of grillage/ angle members shall be so arranged that the structural stability is fully ensured.
- 7.5.17 Prior to the positioning of the members all laitance and loose materials shall be removed by wire brushing and chipping and bearing surfaces cleaned as directed by the Engineer in charge.
- 7.5.18 The rates given shall be for the finished items of work including fabricating, erecting and alignment with appropriate materials, all connections, welding, rectification wherever necessary, transporting and handling charges, all accessories, equipments, scaffolding, all lifts etc. including cost of all labour, and materials.
- 7.5.19 The finished work including erection shall be measured in Kilogram inclusive of the weight of posts, members, M.S plate stiffeners, M.S base plates, bolts, nuts,

washers but no allowance shall be made for the welded material. The measurement for plates used on the work shall be made for the actual quantity used in work. The rate quoted per Kilogram shall be inclusive of cost of all materials & labour applying iron primer, erection in position, scaffolding, all transportation, lifts etc.

7.6 PROVIDING AND APPLYING SYNTHETIC ENAMEL PAINT

- 7.6.1 Paints/ primers of approved premium brand and manufacture shall be used. Only ready mixed Paint (Exterior grade) as received from the manufacturer without any admixture shall be used. If for any reason, thinning is necessary in case of ready mixed Paint, the brand of thinner recommended by the manufacturer or as instructed by the Engineer-in-Charge shall be used.
- 7.6.2 The surface shall be thoroughly cleaned off all dirt, rust, dust, grease etc. with wire brush, sand paper etc., and be made perfectly clean and dry while painting.
- 7.6.3 The number of coats shall be as per schedule. Successive coats shall be applied only on the next day after rubbing with the finest grade of wet abrasive paper and dusting of the loose particles.
- 7.6.4 Measurements of the work under this head shall be made on the basis of the area of work done and rate quoted shall include the cost of surface preparation, materials, labour, scaffolding etc. required for the completion of works as detailed above.

7.7 INSTALLATION OF SLUICE VALVE

- 7.7.1 **Sluice Valve:** A valve in which the flow of water is cut off by means of a circular disc., fitting against machine-smoothed faces, at right angles to the direction of flow. The disc is raised or lowered by means of a threaded stem connected to the handle of the valve; the opening in the valve is usually as large as the full bore of the pipe.
- 7.7.2 The sluice valves shall conform to IS: 780. The valves are used in a pipe line for controlling or stopping flow of water. These shall be of specified size and class and shall be of inside non-raising screw type up to 300 mm size and raising or non-raising screw type above 300 mm with either double flange or double socket ends and cap or hand wheel. These shall in all respects comply with the Indian Standard Specification IS 780 for valves up to and including 300 mm size and for valves above 300 mm size. Class I sluice valves are used for maximum working pressure of 10 Kg/sq.cm (100 metre head) and class II sluice valve for 15

Kg/sq.cm (150 metre head). The body, domes covers, wedge gate and stuffing box shall be of good quality cast iron, the spindle of bronze, and the nut and valve seats of leaded tin bronze. The bodies, spindles and other parts shall be truly machined with surface smoothly finished. The area of the water way of the fittings shall be not less than the area equal to the nominal bore of the pipe. The valve shall be marked with an arrow to show the direction of turn for closing of the valve.

7.7.3 The valve shall be fully examined and cleared of all foreign matter before being fixed. The fixing of the valve shall be done by means of bolts, nuts and 3 mm rubber insertions or chemically treated compressed fiber board 1.5 mm minimum thickness and of weight not less than 0.183 gm./sq.cm. with the flanges of spigot and the socketed tail pieces drilled to the same specification in case of S&S pipes and with flanges in case of flanged pipes. The tail pieces shall conform to IS 1938. These shall be jointed to the pipe line by means of lead caulked joints.

7.7.4 **Measurements**

Sluice valve shall be enumerated.

7.7.5 **Rate**

The rate shall include the cost of material and labour involved in all the operations described above.

SIGNATURE OF TENDERER