

# **SEALED QUOTATION DOCUMENT**

## **Procurement of Goods Sealed Quotation**

**Procurement, Supply and Delivery of GI Pipe for Arghakhanchi District**

**Issued by:**

**Federal Water Supply and Sewerage Management Project, Arghakhanchi  
Sandhikharka Sandhikharka Arghakhanchi**

Sealed Quotation Number

11-081/82/Goods/FWSSMP-Arghakhanchi

Issued On

21-04-2025

## Table of Contents

Section I. Invitation for Sealed Quotation .....	
Section II. Instructions to Bidders .....	
Section III. Bid data sheet.....	
Section IV. Quotation form and price Schedule .....	
Section V. Schedule of requirements.....	
Section VI. General Conditions of contract .....	
Section VII.Special Conditions of contract .....	
Section VIII.Contract form .....	

# Abbreviations

BD	.....	Bidding Document
BDF	..... ..	Bidding Forms
BDS	..... ..	Bid Data Sheet
BOQ	..... .	Bill of Quantities
COF	..... .	Contract Forms
DP	..... .	Development Partners
DoLI	..... .	Department of Local Infrastructure
ELI	..... ..	Eligibility
EQC	..... ..	Evaluation and Qualification Criteria
EXP	..... ..	Experience
FIN	..... ..	Financial
GCC	..... ..	General Conditions of Contract
GoN <sup>1</sup>	..... ..	Government of Nepal
ICC	..... .	International Chamber of Commerce
IFB	.....	Invitation for Bids
ITB	..... .	Instructions to Bidders
JV	..... ..	Joint Venture
LIT	..... ..	Litigation
NCB	..... .	National Competitive Bidding
PAN	..... ..	Permanent Account Number
PPA	..... ..	Public Procurement Act
PPMO	..... .	Public Procurement Monitoring Office
PPR	..... ..	Public Procurement Regulations
PL	.....	Profit & Loss
SBD	..... ..	Standard Bidding Document
SCC	..... ..	Special Conditions of Contract
TS	.....	Technical Specifications
VAT	..... ..	Value Added Tax
WRQ	..... ..	Works Requirements

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<sup>1</sup> “GoN” word indicates all public entities according to Public Procurement Act, 2063

**Section - I**  
**Invitation for Sealed Quotation**

# Invitation for Sealed Quotation

Name of the Office: Federal Water Supply and Sewerage Management Project, Arghakhanchi

Address of the Office: Sandhikharka Sandhikharka Arghakhanchi

Invitation for Sealed Quotation for the procurement of Procurement, Supply and Delivery of GI Pipe for Arghakhanchi District

Sealed Quotation No: 11-081/82/Goods/FWSSMP-Arghakhanchi

Date of second Publication : 21-04-2025

1. The Federal Water Supply and Sewerage Management Project, Arghakhanchi invites sealed quotations from registered Suppliers for the Procurement, Supply and Delivery of GI Pipe for Arghakhanchi District.
2. Eligible Suppliers may obtain further information and inspect the Sealed quotation Forms at the office of Sandhikharka Sandhikharka Arghakhanchi , 077420099, , fwssmparghakhanchi@gmail.com.  
OR  
[may visit PPMO website [www.bolpatra.gov.np](http://www.bolpatra.gov.np).]
3. If hard copy is allowed then a complete set of Bidding Documents may be purchased from the office Federal Water Supply and Sewerage Management Project, Arghakhanchi Sandhikharka Sandhikharka Arghakhanchi and the office Federal Water Supply and Sewerage Management Project, Arghakhanchi Sandhikharka Sandhikharka Arghakhanchi by eligible Bidders on the submission of a written application, along with the copy of company/firm registration certificate, and upon payment of a non-refundable fee of NRs.1000.0 till 06-05-2025 12:00 during office hours.
4. Bidder who chooses to submit their bid electronically may download the bidding documents for e-submission from PPMO's e-GP i.e [www.bopatra.gov.np/egp](http://www.bopatra.gov.np/egp). Bidders, submitting their bid electronically, should deposit the cost of bidding document in the following account
  - i. Name of the Bank :Rastriya Banijya Bank Ltd.
  - ii. Name of Office :Federal Water Supply and Sewerage Management Project, Arghakhanchi
  - iii. Office Code no :313015101
  - iv. Office Account No :1000100200010000
  - v. Rajaswa (revenue) Shirshak No :14229
5. Sealed bids must be submitted to the office Federal Water Supply and Sewerage Management Project, Arghakhanchi Sandhikharka Sandhikharka Arghakhanchi by hand or through e-GP system i.e [www.bopatra.gov.np/egp](http://www.bopatra.gov.np/egp) on or before 06-05-2025 12:00. Bids received after this deadline will be rejected.
6. The bids will be opened in the presence of Bidders' representatives who choose to attend at 06-05-2025 14:00 at the office of Federal Water Supply and Sewerage Management Project, Arghakhanchi Sandhikharka Sandhikharka, Arghakhanchi Lumbini Province Nepal.  
Bids must be valid for a period of 45 days after bid opening and must be accompanied by a bid security amounting to a minimum of 50000 , which shall be valid for 30 days beyond the validity period of the bid (i.e. [Refer Clause ITB 20.1]). If bidder wishes to submit the Cash Security, the cash should be deposited in Deposit Account No.[3050100102030000 K-2-3] at [Rastriya Banijya Bank Ltd. , Sandhikharka, Arghakhanchi] and submit the receipt of the deposited amount of cash along with the Sealed Quotation.
7. If the last date of purchasing and /or submission falls on a government holiday, then the next working day shall be considered as the last date. In such case the validity period of the bid security shall remain the same as specified for the original last date of bid submission
8. The Purchaser reserves the right to accept or reject, wholly or partly any or all the Sealed Quotations without assigning any reason, whatsoever.

## **Section - II**

### **Instructions to Bidders**

#### **Notes on the Instructions to Bidders**

This section of the bidding documents should provide the information necessary for Interested Suppliers to prepare responsive bids, in accordance with the requirements of the Purchaser. It should also give information on bid submission, opening and evaluation, and award of Contract. These Instructions to Bidders shall not be part of the Contract and shall cease to have effect once the Contract is signed.

## Section II Instructions to Bidder

1. Scope of Works

1.1 The Purchaser stated in the BDS for the procurement of Goods as detailed in attached specifications, drawings and the bill of quantities provided herein. The name of Purchaser, name of project and contract identification number of Contracts are provided in the BDS.
2. Eligible Bidder

2.1 This Invitation for Bids is open to all registered Suppliers with eligibility criteria specified below.

Sl. No.	Criteria Title
1	Up to date Firm/Company Registration Certificate
2	VAT and PAN Registration Certificates
3	Tax Clearance Certificate for 2080-81

2.2 A bidder declared blacklisted and ineligible by the GoN, Public Procurement Monitoring Office (PPMO) and/or the DP in case of DP funded project, shall be ineligible to bid for a contract during the period of time determined by the GoN, PPMO and/or the DP.
3. One Quotation per Bidder

3.1 Each Bidder shall submit only one quotation, A Bidder who submits more than one quotation shall cause all the quotations with the Bidder's participation to be disqualified.
4. Cost of Bidding

4.1 The Bidder shall bear all costs associated with the preparation and submission of his Quotation and the Purchaser shall in no case be liable for those costs.
5. Site Visit

5.1 The Bidder at his own cost, responsibility and risk may visit the site of the supply, delivery or installation of Goods and acquire all necessary information for preparing the bid and entering into a contract for the procurement of Goods.
6. Content of Quotation Form

6.1 The Quotation Form comprise the documents listed below:
  1. Section I: Invitation for Sealed Quotation (SQ)
  2. Section II: Instructions to Bidders
  3. Section III: Bid Data Sheet
  4. Section IV Quotation Forms and Price Schedule
  5. Section V: Schedule of Requirements
  6. Section VI: General Conditions of Contract (GCC)
  7. Section VII: Special Conditions of Contract
  8. Section VIII: Contract Form
7. Clarification

7.1 A prospective Supplier/Bidder may obtain clarification on the Quotation Form from the the Purchaser on or before 5 days prior to the deadline for submission of Quotation.
8. Language of Quotation

8.1 All documents relating to the Quotation shall be in English or in Nepali.
9. Documents Comprising Quotation

9.1 The Quotation by the Bidder shall comprise the following:
  - a. Quotation Form and Price Schedules
  - b. Bid Security
  - c. Schedule of Requirements
10. Quotation Prices

10.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total price in Nepali Rupees. for all items of the goods to be supplied under the contract.  
10.2 All duties, taxes and other levies payable by the Bidder under the contract shall be included in the rates, prices and total Bid Price submitted by the Bidder.  
10.3 Price quoted by the Bidder shall remain fixed and valid until completion of the Contract Performance and will not be subject to variation in any account.
11. Quotation Validity

11.1 The Sealed Quotation shall remain valid for the period of 45 days after opening of the quotation. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

12. Quotation/Bid Security	<p data-bbox="422 62 1536 248">12.1 The Bidder shall furnish as part of its Sealed Quotation, in original form, a bid security as specified in the BDS. In case of e-submission of Quotation, the Bidder shall upload scanned copy of Bid security letter at the time of electronic submission of the Sealed Quotation. The Bidder accepts that the scanned copy of the Bid security shall, for all purposes, be equal to the original. The details of original Bid Security and the scanned copy submitted with e-Sealed Quotation should be the same otherwise the Sealed Quotation shall be non-responsive.</p> <p data-bbox="422 277 1536 398">12.2 The Bid Security shall be, at the Bidder's option, in any of the following forms:  (a) an unconditional bank guarantee from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law or;  (b) a cash deposit voucher in the Purchaser's Account as specified in the BDS  In the case of a bank guarantee, the Bid Security shall be submitted either using the Bid Security Form included in Section III (Bidding Forms) or in another Form acceptable to the Purchaser. The form must include the complete name of the Bidder. The Bid security shall be valid for minimum thirty (30) days beyond the original validity period of the bid</p> <p data-bbox="422 427 1536 524">12.3 Any Sealed Quotation not accompanied by an enforceable and substantially compliant bid security, shall be rejected by the Purchaser as nonresponsive. In case of e-Submission, if the scanned copy of an acceptable Bid Security letter is not uploaded with the electronic Bid then Bid shall be rejected.</p> <p data-bbox="422 553 1536 949">12.4 The Bid security shall be forfeited if:  (a) a Bidder requests for withdrawal or modification during the period of Quotation validity specified by the Bidder on the Letter of Bid, after Sealed Quotation submission deadline.  (b) a Bidder changes the prices or substance of the Sealed Quotation while providing information;  (c) a Bidder involves in fraud and corruption pursuant to clause 26;  (d) the successful Bidder fails to:  (i) furnish a performance security in accordance with clause 25;  (ii) sign the Contract in accordance within the period stipulated in Letter of Award.; or  (iii) accept the correction of arithmetical errors pursuant to clause 19.1  (iv) fails to provide the clarification of its Quotation by the date and time set in the Purchaser's</p>
13. Format and Signing of Quotations	13.1 The Quotation shall be typed or written in indelible ink and shall be signed by an authorized person. Any entries or amendments including alternations, additions or corrections made shall be initialled by the same authorized person.
14. Sealing and Marking of Quotations	<p data-bbox="422 1095 1536 1249">14.1 Bidders may submit their bids by manually or by electronically. When so specified in the BDS. Procedures for submission, sealing and marking are as follows:  Bidders submitting bids by manually. The Bidder shall submit his bid in sealed envelopes. The envelope shall be addressed to the Purchaser as specified in the BDS and shall bear the name and identification number of the Sealed quotation.</p> <p data-bbox="422 1256 1536 1310">14.2 Bidders submitting Bids electronically shall follow the electronic bid submission procedure specified in the BDS</p>
15. Deadline for Submission of Quotations	15.1 Quotations shall be delivered to the Purchaser at the address no later than the time and date specified in the BDS.
16. Late Quotation	16.1 Any Quotation received by the Purchaser after the deadline shall not be accepted and shall be returned unopened to the Bidder upon request.
17. Modification And Withdrawal	17.1 Sealed Quotations once submitted shall not be withdrawn or modified.
18. Bid Opening	<p data-bbox="422 1585 1536 1639">18.1 The Purchaser shall open the Quotations in the presence of the Bidders' representatives who choose to attend at the time and in the place as specified in the BDS</p> <p data-bbox="422 1646 1536 1700">18.2 The Purchaser shall prepare and provide minutes of the opening including the information disclosed to those present.</p>
19. Process to be Confidential	19.1 Information relating to the examination, evaluation and comparison of Quotations and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any efforts by the Bidder to influence the Purchaser in the Quotation evaluation, comparison or contract award decisions may result in rejection of Bidder's quotation.
20. Examination of Quotations	<p data-bbox="422 1912 1536 1977">20.1 Prior to the detailed evaluation of Quotations, the Purchaser shall determine whether each Quotation</p> <p data-bbox="422 1984 1536 2098">(a) meets the eligibility criteria defined in Clause 2;  (b) has been properly signed by the authorized person;  (c) is accompanied by the required securities; and  (d) is substantially responsive to the requirements of the Bidding documents.</p>



21. Evaluation and Comparison of Quotations	<p>21.1 In evaluating the Quotations, the Purchaser shall determine for each Sealed Quotation the evaluated Quotation Price by adjusting any corrections for errors. Quotations shall be checked by the Purchaser for any arithmetic errors. Errors shall be corrected by the Purchaser as follows:</p> <p>(a) only for unit price Contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;</p> <p>(b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and</p> <p>(c) If there is a discrepancy between the Quotation price in the Summary of Price Schedule and the Quotation amount in item (c) of the Letter of Quotation, the price in the Summary of Price Schedule will prevail and the Quotation amount in item (c) of the Letter of Quotation will be corrected.</p> <p>(d) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) ,(b) and (c) above.</p> <p>21.2 In case of e-submission of bid, upon notification from the Purchaser, the bidder shall also submit the original of documents comprising the Sealed Quotation as per ITB 9 for verification of submitted documents for acceptance of the e-submitted bid. If a Bidder does not provide original of document of its Sealed Quotation by the date and time set in the Purchaser's request for clarification, its bid may be rejected.</p> <p>21.3 If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified and its Quotation security shall be forfeited.</p> <p>21.4 In Case, a corruption case is being filed to Court against the Natural Person or Board of Director of the firm/institution /company or any partner of JV, such Natural Person or Board of Director of the firm/institution /company or any partner of JV such bidder's bid shall be excluded from the evaluation, if public entity receives instruction from Government of Nepal.</p>
22. Award of Contract	<p>22.1 The Purchaser shall decide the award of the contract to the Bidder whose Quotation is within the approved estimate and who has offered the lowest evaluated Price within Quotation validity period provided that such Bidder has been determined to be eligible in accordance with the provisions of Clauses 2.</p> <p>22.2 In Case, a corruption case is being filed to Court against the Natural Person or Board of Director of the firm/institution /company or any partner of JV, such Natural Person or Board of Director of the firm/institution /company or any partner of JV such bidder's bid shall be excluded from the evaluation, if public entity receives instruction from Government of Nepal.</p>
23. Purchaser's Right to Accept or Reject	<p>23.1 The Purchaser reserves the right to accept or reject any Quotation or to cancel the bidding process and reject all Quotations, at any time prior to the award of the contract, without assigning any reasons whatsoever and without thereby incurring any liability to the affected Bidder or Bidders.</p>
24. Notification of Award and Signing of Agreement	<p>24.1 The Bidder whose bid is accepted and all other participating bidders shall be notified of the award by the Purchaser.</p> <p>24.2 The notification (hereafter called the "Letter of Acceptance") to the successful Bidder shall state the sum that the Purchaser shall pay the Bidder in the execution and completion of the contract. Within 7 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver the Performance Security pursuant Clause 25 and sign the Agreement.</p> <p>24.3 Inability of the Bidder to make an Agreement within the above stated period shall result in the forfeiture of the Bidder's Quotation Security and , upon which the Contract shall then be awarded to the next successive successful Bidder.</p>
25. Performance Security	<p>25.1 Within seven (7) days of the receipt of Letter of Acceptance from the Purchaser, the successful Bidder shall furnish the performance security as stated below from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in accordance with the conditions of Contract using Sample Form for the Performance Security included in Section VIII (Contract Forms), or another form acceptable to the Purchaser.</p> <p>i) If bid price of the bidder selected for acceptance is up to 15 (fifteen) percent below the approved cost estimate, the performance security amount shall be 5 (five) percent of the bid price.</p> <p>ii) For the bid price of the bidder selected for acceptance is more than 15 (fifteen) percent below of the cost estimate, the performance security amount shall be determined as follows:</p> <p>Performance Security Amount =</p> $[(0.85 \times \text{Cost Estimate} - \text{Bid Price}) \times 0.5] + 5\% \text{ of Bid Price.}$ <p>The Bid Price and Cost Estimate shall be inclusive of Value Added Tax.</p>

26. Corrupt or Fraudulent Practices
- 26.1 The Purchaser shall reject a bid for award if it determines that the Bidder recommended for award of contract has engaged in corrupt or fraudulent practices in competing for the contract in question.
- 26.2 In Case, a corruption case is being filed to Court against the Natural Person or Board of Director of the firm/institution /company or any partner of JV, such Natural Person or Board of Director of the firm/institution /company or any partner of JV such bidder's bid shall be excluded from the evaluation, if public entity receives instruction from Government of Nepal.
27. Conduct of Bidders
- 27.1 The Bidder shall be responsible to fulfil his obligations as per the requirement of the Contract Agreement, Bidding documents, GoN's Procurement Act and Regulations.
- 27.2 The Bidder shall not carry out or cause to carry out the following acts with an intention to influence the implementation of the procurement process or the procurement agreement :
- give or propose improper inducement directly or indirectly,
  - distortion or misrepresentation of facts
  - engaging or being involved in corrupt or fraudulent practice
  - interference in participation of other prospective bidders.
  - coercion or threatening directly or indirectly to cause harm to the person or the property of any person to be involved in the procurement proceedings,
  - collusive practice among bidders before or after submission of bids for distribution of works among bidders or fixing artificial/uncompetitive bid price with an intention to deprive the Purchaser the benefit of open competitive bid price..
- 27.3 contacting the Purchaser with an intention to influence the Purchaser with regards to the bid or interference of any kind in examination and evaluation of the bids during the period after opening of bids up to the notification of award of contract
28. Blacklisting Bidder
- 28.1 Without prejudice to any other right of the Purchaser under this Contract, GoN, Public Procurement Monitoring Office may blacklist a bidder for his conduct up to three years on the following grounds and seriousness of the act committed by the bidder:
- if it is proved that the bidder committed acts pursuant to the Sub-Clause 27.2,
  - if it is proved later that the bidder/Supplier had committed substantial defect in implementation of the contract or had not substantially fulfilled his obligations under the contract or the completed work is not of the specified quality as per the contract ,
  - if convicted by a court of law in a criminal offence which disqualifies the bidder from participating in the contract.
  - if it is proved that the contract agreement signed by the bidder was based on false or misrepresentation of bidder's qualification information,
  - Inability of the bidder signing the contract agreement, once the letter of acceptance to the successful bidder has been provided by the Purchaser.,
- 28.2 A firm declared blacklisted and ineligible by the GON shall be ineligible to bid for a contract during the period of time determined by the PPMO.
29. Publication of contract award notice
- 29.1 Within three days of contract signing, the Public Entity shall publish a notice on the contract award with following information: in its notice board as well as shall manage to publish the notice on the notice board of District Coordination Committee, District Administration Office, Provincial Treasury and Controller Office and District Treasury and Controller Office, Such notice shall also be posted in its website and PPMO's website.
- Name of the procurement,
  - IFB number,
  - date and name of newspaper published the IFB notice,
  - name of the successful Bidder, and the contract price.
- 29.2 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, within thirty days from the date of publication of contract award notice in accordance with ITB 29.1, requests in writing the grounds on which its bid was not selected.
30. Provision of PPA and PPR
- 30.1 If any provision of this document are inconsistent with Public Procurement Act (PPA), 2063 or Public Procurement Regulations (PPR), 2064, the provision of this documents shall be void to the extent of such inconsistency and the provision of PPA and PPR shall prevail.

Section III Bid Data Sheet	
ITB 1	<p>The scope of Supply is :</p> <p>The number of the Invitation for Sealed Quotation (SQ) is :11-081/82/Goods/FWSSMP-ArghakhanchiThe Purchaser is: Federal Water Supply and Sewerage Management Project, Arghakhanchi</p> <p>The Name of the Project is :Procurement, Supply and Delivery of GI Pipe for Arghakhanchi District</p>
ITB 10	<p>The Bidder shall furnish a bid security, from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law with a minimum of NRs.50000, which shall be valid for 30 days beyond the validity period of the bid.</p>
ITB 10(a)	<p>Cash Deposit Account for Bid Security:</p> <p>Bank Name:Rastriya Banijya Bank Ltd.</p> <p>Bank Address:Sandhikharka, Arghakhanchi</p> <p>Account holder's Name:Dharauti Khata</p> <p>Account Number:3050100102030000 K-2-3</p>
ITB 14.1	<p>Bidders shall have the option of submitting their bids electronically. Bidders shall follow the electronic bid submission procedures specified below:</p> <ol style="list-style-type: none"> <li>The bidder is required to register in the e-GP system <a href="https://www.bolpatra.gov.np/egp">https://www.bolpatra.gov.np/egp</a> following the procedure specified in e-GP guideline.</li> <li>Interested bidders may either purchase the bidding document from the Purchaser's office as specified in the BDS or may download the from e-GP system.</li> <li>The registered bidders need to maintain their profile data required during preparation of bids.</li> <li>In order to submit their bids electronically the cost of the bidding document shall be deposited in the account specified in IFQ. In addition, electronic scanned copy (.pdf format) of the bank deposit voucher/cash receipt should also be submitted along with the bid.</li> <li>The bidder can prepare the their bids using data and documents maintained in bidder's profile and forms/format provided in Sealed Quotation Document by Purchaser. The bidder may submit bids as a single entity or as a joint venture. The bidder submitting bid in joint venture shall have to upload joint venture agreement along with partner(s) Bolpatra ID provided during bidder's registration.</li> <li>Bidders (all partners in case of JV) should update their profile data and documents required during preparation and submission of their bids.</li> <li>In case of bid submission in JV, the consent of the partners shall be obtained through the confirmation link sent to the registered email address and the partners shall have to acknowledge their confirmation.The required forms and documents shall be part of technical bids: <ol style="list-style-type: none"> <li>Letter of Quotation (Mandatory)</li> <li>Quotation Security /Bank Guarantee (Mandatory)</li> <li>Company registration (Mandatory)</li> <li>VAT registration (Mandatory)</li> <li>Tax clearances certificate or evidence of tax return submission for the F/Y (Mandatory)</li> <li>Power of Attorney of Bid signatory (Mandatory)</li> <li>Completed Price Schedule (Mandatory)</li> <li>Bank Voucher for cost of bid document (Mandatory)</li> <li>Joint venture agreement (Mandatory in case of JV Bid)</li> <li>Additional documents specified in Bidding Document (any other required documents, which is not against the provision of Procurement Act/Regulation/Directives and Standard Bidding Document issued by PPMO)</li> </ol> </li> </ol> <p>Note: The documents specified as "Mandatory" should be included in e-submission.</p> <ol style="list-style-type: none"> <li>After providing all the details and documents, bid response documents will be generated from the system. Bidders are advised to download and verify the response documents prior to bid submission.</li> <li>For verifying the authentic user, the system will send one time password in the registered email address of the bidder. System will validate the OTP and allow bidder to submit their bid.</li> <li>Once Quotation is submitted, bidders won't able to modify/withdrawal their bid.</li> <li>The Bidder/Quotation shall meet the following requirements and conditions for e-submission of bids: <ol style="list-style-type: none"> <li>The e-submitted Quotations must be readable through PDF reader.The facility for submission of Quotation electronically through e-submission is to promote transparency, non-discrimination, equality of access, and open competition in the bidding process. The Bidders are fully responsible to use the e- submission facility properly in e-GP system as per specified procedures and in no case the Purchaser shall be held liable for Bidder's inability to use this facility.b) When a bidder submits electronic bid through the PPMO e-GP portal, it is assumed that the bidder has prepared the bid by studying and examining the complete set of the Bidding documents including specifications, drawings and conditions of contract.</li> </ol> </li> </ol>
ITB 15	<p>The deadline for Sealed Quotation submission is:06-05-2025 12:00</p> <p>Address:Sandhikharka Sandhikharka Arghakhanchi</p>

ITB 18	<p>The Sealed Quotation opening shall take place at :</p> <p>Address :Federal Water Supply and Sewerage Management Project, Arghakhanchi Sandhikharka Sandhikharka, Arghakhanchi Lumbini Province Nepal Date and Time:06-05-2025 14:00</p> <p>a) e-GP system allows to download the Sealed Quotation response document only after bid opening date and time are met. Simultaneous login of two members of the opening committee is required for bid opening.</p> <p>b)The Purchaser shall conduct the opening of bid at the address on the same date and time as specified in bidding document in the presence of Bidders’ representatives who choose to attend</p>
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## **Section - IV**

### **Sample Forms**

# 1. Quotation and Price Schedules

Date:

To: *[name and address of the Purchaser]*

Gentlemen and/or Ladies:

Having examined the Sealed Quotation (SQ) documents, we the undersigned, offer to supply and deliver *[description of goods and services]* in conformity with the said SQ documents for the sum of *[total SQ amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this SQ.

We undertake, if our SQ is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our SQ is accepted, we will obtain the guarantee of a bank in a sum equivalent to Five ( 5) percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this SQ for a Period of **45** days from the date fixed for SQ opening it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this SQ, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any SQ you may receive.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

\_\_\_\_\_  
*[signature]*

\_\_\_\_\_  
*[in the capacity of]*

Duly authorized to sign SQ for and on behalf of \_\_\_\_\_

## 2. Bidder's Information Form

*[The Bidder shall fill in this Form. No alterations to its format shall be permitted and no substitutions shall be accepted. In case of joint venture, each partner shall fill the information in separate form.]*

1.	Bidder's Legal Name	
2	Bidder's Address:	
3	Bidder's Country of Registration:	
4	Bidder's Year of Registration:	
5	Bidder's Legal Address in Country of Registration	
6.	Bidder's Authorized Representative Information: Name:  Address:  Telephone/Fax numbers:  Email Address:	
7	Bidder's Telephone/Fax numbers:	
8	Bidder's Email Address:	
	<b>Attached are copies of the following original documents.</b>  <input type="checkbox"/> 1. Firm Registration Certificate  <input type="checkbox"/> 2. Authorization to represent the firm	

### 3. Price Schedule for Goods

Name of Bidder \_\_\_\_\_ Contract Identification Number \_\_\_\_\_

Item	Description	Country of Origin	Quantity	Unit Price <sup>1</sup> EXW (in NRs)		Total Price (in NRs) (cols. 4x5)
				In Figure	In Words	
1	2	3	4	5		4x5=6
Total						
VAT						
Grand Total						

Note: Unit price shall include all custom duties and taxes, transportation cost to the final destination and insurance cost.

**[If there are more than one lot/slice/package, prepare Price Schedule form for each lot/slice/package]**

Name \_\_\_\_\_

In the capacity of \_\_\_\_\_

Signed \_\_\_\_\_

Duly authorized to sign the Sealed Quotation for and on behalf of \_\_\_\_\_

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

<sup>1</sup> The price shall include all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the item or the customs duties and sales and other taxes paid on the previously imported item offered ex warehouse, ex showroom, or off-the-shelf. These factors should not be entered separately.



## 4. Bid Security

Bank's Name, and Address of Issuing Branch or Office

(On Letter head of the Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law)

Beneficiary: ..... name and address of Employer.....

Date:.....

Bid Security No.: .....

We have been informed that ..... [*insert name of the Bidder*] (hereinafter called "the Bidder") intends to submit its bid (hereinafter called "the Bid") to you for the execution of ..... name of Contract ..... under Invitation for Bids No. .... ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we..... name of Bank. ....hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of. . .....amount in figures ..... (. ..... amount in words ..... ) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn or modifies its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.
- (d) is involved in fraud and corruption in accordance with the ITB

This guarantee will remain in force up to and including the date .....number.....days after the deadline for submission of Bids as such deadline is stated in the instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

This Bank guarantee shall not be withdrawn or released merely upon return of the original guarantee by the Bidder unless notified by you for the release of the guarantee.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

Bank's seal and authorized signature(s) . . .

### Note:

The bid security of ..... has been counter guaranteed by the Bank .....on

..... (Applicable for Bid Security of Foreign Banks).

# Schedule of Requirement

## 1. List of Goods and Related Services

1 Construction work			
1.1 Water Supply System			
Procument Item Details			
SL. No	Item Description	Unit of Measurement	Quantity
1	Procurement,Supply and Delivery of 50mm Heavy class GI pipe	Rm	12.0
2	Procurement,Supply and Delivery of 25mm Medium class GI pipe	Rm	9.0
3	Procurement,Supply and Delivery of 32mm Medium class GI pipe	Rm	6.0
4	Procurement,Supply and Delivery of 40mm Medium class GI pipe	Rm	6.0
5	Procurement,Supply and Delivery of 50mm Medium class GI pipe	Rm	18.0
6	Procurement,Supply and Delivery of 65mm Medium class GI pipe	Rm	830.0
7	Procurement,Supply and Delivery of 80mm Medium class GI pipe	Rm	24.0
8	Procurement,Supply and Delivery of 100mm Medium class GI pipe	no	6.0
9	Procurement,Supply and Delivery of 32mm GM Gate valve	no	1.0
10	Procurement,Supply and Delivery of 100mm GM Gate valve	no	2.0
11	Procurement,Supply and Delivery of 6" long 32mm GI Nipple	no	1.0
12	Procurement,Supply and Delivery of 6" long 40mm GI Nipple	no	2.0
13	Procurement,Supply and Delivery of 4" long 100mm GI Nipple	no	2.0
14	Procurement,Supply and Delivery of 32mm GI elbow	no	2.0
15	Procurement,Supply and Delivery of 100mm GI elbow	no	2.0
16	Surface Plate Procurement,Supply and Delivery of MS Disc plate for casing 200mm dia having 12 nos. 22 mm dia. Bolt holes for M20 bolts as per specification	Set	4.0
17	Pressure Gauge Procurement,Supply and Delivery of Standard bottom entry water pressure gauge, size 100 mm , pressure reading up to 50 kg/cm2 , connection : M10 x 1 , supplied with steel ball valve and adaptor for 15 mm ( ½") dia connection as per specification	Set	2.0
18	Procurement,Supply and Delivery of Cast Steel swing check valve with MS Flange and Not bolt, Gas ket Class 300, DN-50 as per specification	No	2.0
19	Procurement,Supply and Delivery of Cast Steel Gate Valve Class 300, DN-50 as per specification	No	2.0
20	Procurement,Supply and Delivery of Cast Steel Gate Valve with MS Fange, Not Bolt and gas ket Class 300, DN-65 as per specification	No	1.0
21	Procurement,Supply and Delivery of Cast Iron Gate Valve Class 150, DN-80 as per specification	No	2.0
22	Procurement,Supply and delivery of Seamless 90° Long Bend DN-50 as per specification	No	4.0

Procurement Item Details			
SL. No	Item Description	Unit of Measurement	Quantity
23	Procurement,Supply and delivery of GI 90° Long Bend DN-80 as per specification	No	6.0
24	Procurement,Supply and Delivery of MS Nut bolt washer M16-75mm, M20-80mm as per specification	kg	41.0
25	Procurement,Supply and Delivery of Armoured Copper Conductor for control panel to Motor a) XLPE insulated 4 core 10 mm <sup>2</sup> copper armoured cable as per specification	m	50.0
26	Procurement,Supply and Delivery of Armoured Copper Conductor for changeover to control panel a) XLPE insulated 4 core 16 mm <sup>2</sup> copper armoured cable as per specification	m	10.0
27	Procurement,Supply and Delivery of Submersible Cable a) IS:694 (1990) or equivalent. 3 core 6 sq .mm flat PVC insulated submersible copper conductors, water and oil-resistant, suitable for continuous immersion as per specification	m	40.0
28	Procurement,Supply of Chain Pully Chain pully with the capacity of 3 Tonnes as per specification	no	1.0
29	Procurement,Supply and Delivery of MS ERW pipe 200mm Dia as per specification	m	12.0
30	Procurement,Supply and Delivery of MS equal tee 65mm dia	no	2.0
31	Procurement,Supply and Delivery of 40mm GI union	no	2.0
32	Procurement,Supply and Delivery MS Flange for 50mm dia GI pipe having 8 nos Nut bolt hole with nut bold and gasket	no	8.0
33	Procurement,Supply and Delivery MS Flange for 200mm dia MS Pipe	no	2.0

## 2. Delivery and Completion Schedule

1 Construction work					
1.1 Water Supply System					
SL. No	Description of Goods	Final Destination	Earliest Delivery Date	Acceptable Delivery Date	Bidder's offered Delivery date
1	Procurement,Supply and Delivery of 50mm Heavy class GI pipe	Arghakhanchi	7 days	15 days	
2	Procurement,Supply and Delivery of 25mm Medium class GI pipe	Arghakhanchi	7 days	15 days	
3	Procurement,Supply and Delivery of 32mm Medium class GI pipe	Arghakhanchi	7 days	15 days	
4	Procurement,Supply and Delivery of 40mm Medium class GI pipe	Arghakhanchi	7 days	15 days	
5	Procurement,Supply and Delivery of 50mm Medium class GI pipe	Arghakhanchi	7 days	15 days	
6	Procurement,Supply and Delivery of 65mm Medium class GI pipe	Arghakhanchi	7 days	15 days	
7	Procurement,Supply and Delivery of 80mm Medium class GI pipe	Arghakhanchi	7 days	15 days	
8	Procurement,Supply and Delivery of 100mm Medium class GI pipe	Arghakhanchi	7 days	15 days	

SL. No	Description of Goods	Final Destination	Earliest Delivery Date	Acceptable Delivery Date	Bidder's offered Delivery date
9	Procurement,Supply and Delivery of 32mm GM Gate valve	Arghakhanchi	7 days	15 days	
10	Procurement,Supply and Delivery of 100mm GM Gate valve	Arghakhanchi	7 days	15 days	
11	Procurement,Supply and Delivery of 6" long 32mm GI Nipple	Arghakhanchi	7 days	15 days	
12	Procurement,Supply and Delivery of 6" long 40mm GI Nipple	Arghakhanchi	7 days	15 days	
13	Procurement,Supply and Delivery of 4" long 100mm GI Nipple	Arghakhanchi	7 days	15 days	
14	Procurement,Supply and Delivery of 32mm GI elbow	Arghakhanchi	7 days	15 days	
15	Procurement,Supply and Delivery of 100mm GI elbow	Arghakhanchi	7 days	15 days	
16	Surface Plate Procurement,Supply and Delivery of MS Disc plate for casing 200mm dia having 12 nos. 22 mm dia. Bolt holes for M20 bolts as per specification	Arghakhanchi	7 days	15 days	
17	Pressure Gauge Procurement,Supply and Delivery of Standard bottom entry water pressure gauge, size 100 mm , pressure reading up to 50 kg/cm <sup>2</sup> , connection : M10 x 1 , supplied with steel ball valve and adaptor for 15 mm ( ½") dia connection as per specification	Arghakhanchi	7 days	15 days	
18	Procurement,Supply and Delivery of Cast Steel swing check valve with MS Flange and Not bolt, Gas ket Class 300, DN-50 as per specification	Arghakhanchi	7 days	15 days	
19	Procurement,Supply and Delivery of Cast Steel Gate Valve Class 300, DN-50 as per specification	Arghakhanchi	7 days	15 days	
20	Procurement,Supply and Delivery of Cast Steel Gate Valve with MS Fange, Not Bolt and gas ket Class 300, DN-65 as per specification	Arghakhanchi	7 days	15 days	
21	Procurement,Supply and Delivery of Cast Iron Gate Valve Class 150, DN-80 as per specification	Arghakhanchi	7 days	15 days	
22	Procurement,Supply and delivery of Seamless 90° Long Bend DN-50 as per specification	Arghakhanchi	7 days	15 days	
23	Procurement,Supply and delivery of GI 90° Long Bend DN-80 as per specification	Arghakhanchi	7 days	15 days	
24	Procurement,Supply and Delivery of MS Nut bolt washer M16-75mm, M20-80mm as per specification	Arghakhanchi	7 days	15 days	
25	Procurement,Supply and Delivery of Armoured Copper Conductor for control panel to Motor a) XLPE insulated 4 core 10 mm <sup>2</sup> copper armoured cable as per specification	Arghakhanchi	7 days	15 days	

SL. No	Description of Goods	Final Destination	Earliest Delivery Date	Acceptable Delivery Date	Bidder's offered Delivery date
26	Procurement,Supply and Delivery of Armoured Copper Conductor for changeover to control panel a) XLPE insulated 4 core 16 mm <sup>2</sup> copper armoured cable as per specification	Arghakhanchi	7 days	15 days	
27	Procurement,Supply and Delivery of Submersible Cable a) IS:694 (1990) or equivalent. 3 core 6 sq .mm flat PVC insulated submersible copper conductors, water and oil-resistant, suitable for continuous immersion as per specification	Arghakhanchi	7 days	15 days	
28	Procurement,Supply of Chain Pully Chain pully with the capacity of 3 Tonnes as per specification	Arghakhanchi	7 days	15 days	
29	Procurement,Supply and Delivery of MS ERW pipe 200mm Dia as per specification	Arghakhanchi	7 days	15 days	
30	Procurement,Supply and Delivery of MS equal tee 65mm dia	Arghakhanchi	7 days	15 days	
31	Procurement,Supply and Delivery of 40mm GI union	Arghakhanchi	7 days	15 days	
32	Procurement,Supply and Delivery MS Flange for 50mm diaGI pipe having 8 nos Nut bolt hole with nut bold and gasket	Arghakhanchi	7 days	15 days	
33	Procurement,Supply and Delivery MS Flange for 200mm dia MS Pipe	Arghakhanchi	7 days	15 days	

Technical Specifications

1 Construction work
1.1 Water Supply System

Sl. No.	Description of Goods	Particulars	Requirements	Bidder's Offer
1	Procurement,Supply and Delivery of 50mm Heavy class GI pipe	GI Pipe and Fittings	NS or IS Standard	
2	Procurement,Supply and Delivery of 25mm Medium class GI pipe	GI Pipe and Fittings	NS or IS Standard	
3	Procurement,Supply and Delivery of 32mm Medium class GI pipe	GI Pipe and Fittings	NS or IS Standard	
4	Procurement,Supply and Delivery of 40mm Medium class GI pipe	GI Pipe and Fittings	NS or IS Standard	
5	Procurement,Supply and Delivery of 50mm Medium class GI pipe	GI Pipe and Fittings	NS or IS Standard	
6	Procurement,Supply and Delivery of 65mm Medium class GI pipe	GI Pipe and Fittings	NS or IS Standard	
7	Procurement,Supply and Delivery of 80mm Medium class GI pipe	GI Pipe and Fittings	NS or IS Standard	
8	Procurement,Supply and Delivery of 100mm Medium class GI pipe	GI Pipe and Fittings	NS or IS Standard	
9	Procurement,Supply and Delivery of 32mm GM Gate valve	GI Pipe and Fittings	NS or IS Standard	
10	Procurement,Supply and Delivery of 100mm GM Gate valve	GI Pipe and Fittings	NS or IS Standard	
11	Procurement,Supply and Delivery of 6" long 32mm GI Nipple	GI Pipe and Fittings	NS or IS Standard	
12	Procurement,Supply and Delivery of 6" long 40mm GI Nipple	GI Pipe and Fittings	NS or IS Standard	
13	Procurement,Supply and Delivery of 4" long 100mm GI Nipple	GI Pipe and Fittings	NS or IS Standard	
14	Procurement,Supply and Delivery of 32mm GI elbow	GI Pipe and Fittings	NS or IS Standard	
15	Procurement,Supply and Delivery of 100mm GI elbow	GI Pipe and Fittings	NS or IS Standard	
16	Surface Plate Procurement,Supply and Delivery of MS Disc plate for casing 200mm dia having 12 nos. 22 mm dia. Bolt holes for M20 bolts as per specification	GI Pipe and Fittings	NS or IS Standard	
17	Pressure Gauge Procurement,Supply and Delivery of Standard bottom entry water pressure gauge, size 100 mm , pressure reading up to 50 kg/cm2 , connection : M10 x 1 , supplied with steel ball valve and adaptor for 15 mm ( ½”) dia connection as per specification	GI Pipe and Fittings	NS or IS Standard	
18	Procurement,Supply and Delivery of Cast Steel swing check valve with MS Flange and Not bolt, Gas ket Class 300, DN-50 as per specification	GI Pipe and Fittings	NS or IS Standard	
19	Procurement,Supply and Delivery of Cast Steel Gate Valve Class 300, DN-50 as per specification	GI Pipe and Fittings	NS or IS Standard	
20	Procurement,Supply and Delivery of Cast Steel Gate Valve with MS Fange, Not Bolt and gas ket Class 300, DN-65 as per specification	GI Pipe and Fittings	NS or IS Standard	
21	Procurement,Supply and Delivery of Cast Iron Gate Valve Class 150, DN-80 as per specification	GI Pipe and Fittings	NS or IS Standard	

Sl. No.	Description of Goods	Particulars	Requirements	Bidder's Offer
22	Procurement,Supply and delivery of Seamless 90° Long Bend DN-50 as per specification	GI Pipe and Fittings	NS or IS Standard	
23	Procurement,Supply and delivery of GI 90° Long Bend DN-80 as per specification	GI Pipe and Fittings	NS or IS Standard	
24	Procurement,Supply and Delivery of MS Nut bolt washer M16-75mm, M20-80mm as per specification	GI Pipe and Fittings	NS or IS Standard	
25	Procurement,Supply and Delivery of Armoured Copper Conductor for control panel to Motor a) XLPE insulated 4 core 10 mm <sup>2</sup> copper armoured cable as per specification	GI Pipe and Fittings	NS or IS Standard	
26	Procurement,Supply and Delivery of Armoured Copper Conductor for changeover to control panel a) XLPE insulated 4 core 16 mm <sup>2</sup> copper armoured cable as per specification	GI Pipe and Fittings	NS or IS Standard	
27	Procurement,Supply and Delivery of Submersible Cable a) IS:694 (1990) or equivalent. 3 core 6 sq .mm flat PVC insulated submersible copper conductors, water and oil-resistant, suitable for continuous immersion as per specification	GI Pipe and Fittings	NS or IS Standard	
28	Procurement,Supply of Chain Pully Chain pully with the capacity of 3 Tonnes as per specification	GI Pipe and Fittings	NS or IS Standard	
29	Procurement,Supply and Delivery of MS ERW pipe 200mm Dia as per specification	GI Pipe and Fittings	NS or IS Standard	
30	Procurement,Supply and Delivery of MS equal tee 65mm dia	GI Pipe and Fittings	NS or IS Standard	
31	Procurement,Supply and Delivery of 40mm GI union	GI Pipe and Fittings	NS or IS Standard	
32	Procurement,Supply and Delivery MS Flange for 50mm diaGI pipe having 8 nos Nut bolt hole with nut bold and gasket	GI Pipe and Fittings	NS or IS Standard	
33	Procurement,Supply and Delivery MS Flange for 200mm dia MS Pipe	GI Pipe and Fittings	NS or IS Standard	



## **Conditions of Contract**

## Section VI. General Conditions of Contract

<b>1. Definitions</b>	<p>1.1 In this contract, the following terms shall be interpreted as indicated:</p> <ul style="list-style-type: none"><li>a. "The Contract" means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form Signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein;</li><li>b. "The Contract Price" means the price payable to the Supplier under the contract for the full and proper performance of its contractual obligation;</li><li>c. "The Goods" means Equipment and related Accessories and spare-parts or any other materials which the Supplier is required to supply to the Purchaser under the contract;</li><li>d. "Services" means services ancillary to the supply of the goods such as transportation and insurance including the installation, commissioning and the operational and maintenance training of the supplied equipment.</li><li>e. "The Purchaser" means the procuring entity purchasing the goods;</li><li>f. "The Supplier" means the organization supplying the goods and services under this contract.</li></ul>
<b>2. Technical Specification</b>	<p>2.1 The goods supplied under this contract shall confirm to the standards mentioned in the Technical Specification.</p>
<b>3. Patent Right</b>	<p>3.1 The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of goods or any part thereof in the Purchaser's country.</p>

<b>4. Performance Security</b>	<p>4.1 Within seven days (7) of receipt of award of contract from the Purchaser, the successful Bidder shall furnish the performance security in the Performance Security Form provided in the Bidding Documents for the due performance of the Contract in the amounts specified in the SCC.</p> <p>4.2 Failure of the successful Supplier to comply with the requirement of Sub - clause 4.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make the award to the next lowest Supplier or call for new sealed quotations.</p> <p>4.3 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.</p> <p>4.4 The validity of Performance Security shall be the sum of delivery period, warranty period from the date of the issue of final acceptance certificate to the Supplier and additional one month.</p> <p>4.5 The performance security shall be released within 28 days of completion of warranty period and upon submission of claim by the Supplier.</p>
<b>5. Inspection and Tests</b>	<p>5.1 The Purchaser or its Representative shall have the right to inspect and/or test the goods to confirm their conformity to the Technical Specification and the quality of performance after the supply and delivery of good to the Purchaser's premises</p> <p>5.2 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser.</p>
<b>6. Packing</b>	<p>6.1 The Supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transmit to their final destination as indicated in the contract.</p> <p>6.2 The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage.</p> <p>6.3 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided in accordance with international standard and practice.</p>
<b>7. Delivery of Goods</b>	<p>7.1 Delivery of the goods shall be made by the Supplier in accordance with the terms specified by the Purchaser in its Schedule of Requirements.</p>
<b>8. Insurance</b>	<p>8.1 The goods supplied under the contract shall be fully insured in the currency of the Sealed Quotation price against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified.</p>

<b>9. Warranty</b>	<p>9.1 The Supplier warrants that all the goods supplied under the contract shall fully comply with the specification laid down in the contract.</p> <p>9.2 Unless otherwise specified in the SCC, the warranty shall remain valid for one year after the goods have been delivered to the final destination indicated in the contract, and accepted by the Purchaser after installation and commissioning of equipment by the Supplier.</p> <p>9.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.</p> <p>9.4 Upon receipt of such notice, the Supplier shall, with all reasonable speed, replace the defective goods without cost to the Purchaser. The Supplier will be entitled to remove, at its own risk and cost, the defective goods.</p>
<b>10. Payment</b>	<p>10.1 Payment shall be made in the Nepalese currency as specified in the SCC</p> <p>10.2 Payment of the goods shall be made after the delivery and installation and commissioning of goods (if applicable) to the satisfaction of the Purchaser.</p>
<b>11. Prices</b>	<p>11.1 Prices charged by the Supplier for goods delivered under the contract shall not vary from the prices quoted by the Supplier in its sealed quotation.</p>
<b>12. Changed Order</b>	<p>12.1 Where the Purchaser desires to make changes in <b>Schedule of Requirement</b>, it shall not exceed more than 15 percent.</p>
<b>13. Liquidated Damages</b>	<p>13.1 If the Supplier fails to deliver any or all of the goods within the time period specified in the contract, the Purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.05 percent of the contract price of delayed goods for each day of delay until actual delivery, up to a maximum deduction of 10 percent of the delayed goods' contract price. Once the maximum is reached, the Purchaser may consider termination of the contract.</p>
<b>14. Resolution of Disputes</b>	<p>14.1 If any dispute or difference of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.</p> <p>14.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or Supplier may give notice to the other party of it's intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.</p> <p>14.2.1 Any dispute or difference in respect of such a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be</p>

	<p>commenced prior to or after delivery of the Goods under the Contract.</p> <p>14.2.2 Arbitration proceedings shall be conducted in accordance with in accordance with the rules of Nepal Council of Arbitration (NEPCA).</p> <p>14.3 Notwithstanding any reference to arbitration herein,</p> <ul style="list-style-type: none"> <li>a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and</li> <li>b. the Purchaser shall pay the Supplier any monies due the Supplier.</li> </ul>
<b>15. Governing Language</b>	15.1 The Governing Language shall be: Nepali or English
<b>16. Applicable Law</b>	16.1 The applicable law shall be Laws of Nepal.
<b>17. Notices</b>	<p>17.1 Any Notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the SCC. The term "in writing" means communicated in written form with proof of receipt</p> <p>17.2 A Notice shall be effective when delivered or on the Notice's effective date, whichever is later.</p>
<b>18. Taxes and Duties</b>	18.1 The Supplier shall be entirely responsible for all taxes, duties, licence fees and other such levies imposed by the GON.
<b>19. Operation, Maintenance and Spare-parts Manuals</b>	19.1 The successful Supplier shall supply manufacturer's operation, maintenance and spare-part manuals of the goods (Equipment) as specified in SCC..
<b>20. Conduct of Suppliers</b>	<p>20.1 The Supplier shall be responsible to fulfil his obligations as per the requirement of the Contract Agreement, Quotation documents, GoN's Procurement Act and Regulations.</p> <p>20.2 The Supplier shall not carry out or cause to carryout the following acts with an intention to influence the implementation of the procurement process or the procurement agreement :</p> <ul style="list-style-type: none"> <li>a. give or propose improper inducement directly or indirectly,</li> <li>b. distortion or misrepresentation of facts</li> <li>c. engaging or being involved in corrupt or fraudulent practice</li> <li>d. interference in participation of other prospective bidders.</li> <li>e. coercion or threatening directly or indirectly to impair or harm, any party or the property of the party involved in the procurement proceedings,</li> </ul>

	<ul style="list-style-type: none"> <li>f. collusive practice among bidders before or after submission of bids for distribution of works among bidders or fixing artificial/uncompetitive bid price with an intention to deprive the Purchaser the benefit of open competitive bid price..</li> <li>g. contacting the Purchaser with an intention to influence the Purchaser with regards to the bid or interference of any kind in examination and evaluation of the bids during the period after opening of bids up to the notification of award of contract</li> </ul>
<b>21. Blacklisting Supplier</b>	<p>21.1 Without prejudice to any right of the Purchaser under this Contract, the GoN, Public Procurement and Monitoring Office (PPMO) may blacklist a Supplier for his conduct up to three years on the following grounds and seriousness of the act committed by the supplier:</p> <ul style="list-style-type: none"> <li>a. if it is proved that the supplier committed acts pursuant to the Sub - clause 20.2,</li> <li>b. if the supplier fails to sign an agreement pursuant to ITB Clause 24,</li> <li>c. if it is proved later that the supplier had committed substantial defect in implementation of the contract or had not substantially fulfilled his obligations under the contract or the completed work is not of the specified quality as per the contract ,</li> <li>d. if convicted by a court of law in a criminal offence which disqualifies the supplier from participating in the contract.</li> </ul> <p>21.2 A Supplier declared blacklisted and ineligible by the GON shall be ineligible to bid for a contract during the period of time determined by PPMO and credit information bureau of Nepal.</p>

Section VII - Special Conditions of Contract (SCC)			
This SCC forms part of the Agreement [Note: with the exception of the items for which the Purchaser's requirements have been inserted, the Bidder shall complete the following information before submitting his Sealed Quotation.]			
GCC 1.1.1 (e)	The Purchaser shall be: Federal Water Supply and Sewerage Management Project, Arghakhanchi		
GCC 4.1	<p>The Currency of of the performance Security shall be in Nepalese Rupees.The amount of the performance security shall be as follows:</p> <p>(i) if bid price of the bidder selected for acceptance is up to 15 (fifteen) percent below the approved cost estimate, the performance security amount shall be 5 (five) percent of the bid price.</p> <p>(ii) For the bid price of the bidder selected for acceptance is more than 15 (fifteen) percent below of the cost estimate, the performance security amount shall be determined as follows:</p> <p>(iii) Performance Security Amount =[(0.85 x Cost Estimate – Bid Price) x 0.5] + 5% of Bid Price.</p> <p>The Bid Price and Cost Estimate shall be inclusive of Value Added Tax.</p>		
GCC 9.1	The warranty period shall be : [[6 months]]		
GCC 10	<p>The terms of payment to be made to the Supplier under the contract shall be as follows: Through the District Treasury Controller Office</p> <p>Payments shall be made in Nepalese Rupees in the following manner:</p> <p>Sample provisions:</p> <p>Advance Payment:[Usually not more than twenty (20)] percent of the contract price shall be paid within thirty (30) days of signing of the contract, and upon submission of request for advance and a bank guarantee from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law for equivalent amount valid until the goods are delivered and accepted and in the form provided in the Bidding Document.</p> <p>On Delivery and acceptance:[Hundred (100) percent. of the Contract Price of the Goods and related services (installation and commissioning of goods (if applicable)) to the satisfaction of the Purchaser delivered shall be paid within thirty (30) days upon submission of Tax Invoice and claim supported by the acceptance certificate issued by the Purchaser or its authorized person/s. Advance payment shall be deducted and settled in this payment.</p> <p>or</p> <p>On Delivery [Usually eighty (80)] percent. of the Contract Price of the Goods and related services delivered shall be paid within thirty (30) days of receipt of the Goods and upon submission of Tax Invoice.</p> <p>On acceptance: [Usually eighty (20)] percent. of the Contract Price of the Goods and related services (installation and commissioning of goods (if applicable)) to the satisfaction of the Purchaser. delivered shall be paid within thirty (30) days upon submission of Tax Invoice and claim supported by the acceptance certificate issued by the Purchaser or its authorized person/s</p> <p>or</p> <p>On Delivery and acceptance: One Hundred (100)] percent. of the Contract Price of the Goods and related services delivered shall be paid within thirty (30) days of receipt of the Goods and related services (installation and commissioning of goods (if applicable)) to the satisfaction of the Purchaser. and upon submission of Tax Invoice and claim supported by the acceptance certificate issued by the Purchaser or its authorized person/s</p> <p>TDS shall be deducted as per the prevailing rules and regulations.</p> <p>[Delete those not appropriate]</p> <p>Payments shall be made in Nepalese Rupees in the following manner:.</p>		
	SL No	Milestone Name	Payment Percentage
	1	Advance payment	0
	2	Delivery to site	100.0
GCC 17.1	<p>For notices, the Purchaser’s address shall be:</p> <p>Attention: Federal Water Supply and Sewerage Management Project, Arghakhanchi</p> <p>Address: Sandhikharka Sandhikharka Arghakhanchi</p> <p>Designation:</p> <p>Telephone: 077420099 Facsimile Number:</p> <p>Electronic Mail Address:</p>		

GCC 17.1	<div>For notices, the Suppliers’s address shall be:</div> <div>Attention:</div> <div>Address:</div> <div>Designation:</div> <div>Telephone:Facsimile Number:</div> <div>Electronic Mail Address:</div>
GCC 19.1	<div>The Supplier shall supply 6 monthsnumber of copies manufacturer's operation, maintenance and spare-part manuals of the goods (Equipment) in English or Nepali language as specified in SCC.</div>



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## **Section VIII. Contract Form**

### **1. Letter of Acceptance**

*[on letterhead paper of the Purchaser]*

*Date.....*

To: *(name and address of the Contractor )*

Subject: ..... *Notification of Award*

This is to notify that your Sealed Quotation dated . . . . for execution of the . . . . . *name of the contract and identification number, as given in the Contract Data/SCC . . . . .* for the Contract price of Nepalese Rupees *[insert amount in figures and words in Nepalese Rupees]*, as corrected in accordance with the Instructions to Bidders is hereby accepted in accordance with the Instruction to Bidders.

You are hereby instructed to contract this office to sign the formal contract agreement within 7 days. As per the Conditions of Contract, you are also required to submit Performance Security, as specified in SCC, consisting of a Bank Guarantee in the format included in Section VIII (Contract Forms) of the Bidding Document.

The Purchaser shall forfeit the bid security, in case you fail to furnish the Performance Security and to sign the contract within specified period.

Authorized Signature: .....

Name and Title of Signatory:

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## **2. Contract Agreement**

THIS AGREEMENT made the \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between *[name of Purchaser]* (hereinafter called “the Purchaser”) of the one part and *[name of Supplier]* of *[city and country of Supplier]* (hereinafter called “the Supplier”) of the other part:

WHEREAS the Purchaser invited Sealed Quotation for certain goods and ancillary services, viz., *[brief description of goods and services]* and has accepted a SQ by the Supplier for the supply of those goods and services in the sum of ..... *[contract price in words and figures]* (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - a. Form of Agreement
  - b. The Purchaser’s Notification of Award
  - c. The General Conditions of Contract;
  - d. Special Conditions of Contract
  - e. Quotation Form and the Price Schedule submitted by the Supplier;
  - f. The Schedule of Requirements;
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

On behalf of the Purchaser

Name:

Designation:

Sign:

Seal:

On behalf of the Supplier

Name:

Designation:

Sign:

Seal:

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### **3. Performance Security**

Date :

To: *[name and address of the Purchaser]*

WHEREAS **[insert complete name of Supplier]** (hereinafter “the Supplier”) has received the notification of award for the execution of **[insert identification number and name of contract]** (hereinafter “the Contract”).

AND WHEREAS it has been stipulated by you in the aforementioned Contract that the Supplier shall furnish you with a security **[insert type of security]** issued by a reputable guarantor for the sum specified therein as security for compliance with the Supplier’s performance obligations in accordance with the Contract.

AND WHEREAS the undersigned **[insert complete name of Guarantor]**, legally domiciled in **[insert complete address of Guarantor]**, (hereinafter the “Guarantor”), have agreed to give the Supplier a security:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of **[insert currency and amount of guarantee in words and figures]** and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract, without cavil or argument, any sum or sums within the limits of **[insert currency and amount of guarantee in words and figures]** as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This security is valid until the **[insert day, month, year]**.

Name: **[insert complete name of person signing the Security]**

In the capacity of: **[insert legal capacity of person signing the Security]**

Signed: **[insert signature of person whose name and capacity are shown above]**

Duly authorized to sign the security for and on behalf of: **[insert seal and complete name of Guarantor]**

Date: **[insert date of signing]**

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#### **4. Bank Guarantee for Advance Payment**

To: *[name of the Purchaser]*

*[name of Contract]*

Gentlemen and/or Ladies:

In accordance with the payment provision included in the Contract, which amends Clause 10 of the General Conditions of Contract to provide for advance payment, *[name and address of Supplier]* (hereinafter called “the Supplier”) shall deposit with the Purchaser a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract in an amount of *[amount of guarantee in figures and words]*.

We, the *[bank or financial institution]*, as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Purchaser on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount not exceeding *[amount of guarantee in figures and words]*.

We further agree that no change or addition to or other modification of the terms of the Contract to be performed there under or of any of the Contract documents which may be made between the Purchaser and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

The validity period of the guarantee shall be 30 days beyond the period scheduled for repayment of the advance payment and the guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until the Purchaser receives full repayment of the same amount from the Supplier.

Yours truly,

Signature and seal of the Guarantors

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*[name of bank or financial institution]*

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*[address]*

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*[date]*



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## **SPECIFICATION FOR GMS PIPES(G.I.), FITTINGS AND VALVES**

### **1.0 GENERAL REQUIREMENTS**

#### **1.1 Definition**

For the purpose of this specification, the following words and expression shall have the meanings hereby assigned to them, except where the context otherwise requires:

- (a) "Purchaser" means the Water Supply and Sanitation Division/Subdivision Office (WSSDO) of Department of Water Supply and Sewerage, Ministry of Physical Planning & Works, His Majesty's Government of Nepal.
- (b) "Manufacturer" means the firm or company who has been legitimately registered with the appropriate government agency to manufacture the pipes and fittings and includes his personal representative.
- (c) "Supplier" means the person or persons, firm or company including manufacturer, whose tender has been accepted by the purchaser and has agreed to supply the pipes and fittings as per the specifications provided hereunder.
- (d) "Contract" means the Condition of Contract, Specifications, Drawings, Priced Bill of Quantities, Tender and Agreement together with any Appendices and Addenda thereto.

#### **1.2 Materials**

The term materials shall mean all materials and articles of every kind, raw, processed or manufactured, which are used in manufacture of the Goods to be supplied under the Contract.

All materials shall be new and of the kinds and qualities described in the clauses hereof appropriate to the particular item and shall be at least equal to approved samples except that alternative materials may be accepted provided the Supplier has at the time of tendering:

- a) Drawn particular attention to the deviation from the Specification in his tender and provided particulars of the alternative material offered at the time of tendering; and
- b) Substantiated to the satisfaction of the Purchaser, that the material offered is equal or superior to the material specified for the use to which it is to be put and has obtained from the Purchaser approval in writing to its use. Where materials to be used for any component have not been laid down in the Specification, the manufacturer shall use only those materials in such compositions as have been proven in actual service to be the most suitable for the particular purpose.

#### **1.3 Standards**

All materials, workmanship and components shall, where applicable and unless otherwise stated in the Contract, comply with either:

- (a) with the relevant ISO, Nepal, Indian or British Standard current or Code of practice current on the date fixed for receipt of tenders, or
- (b) with other internationally accepted equivalent Standards or Codes of Practice which are equal or superior than the specifications.

Nepal Standard NS : 199 - 2046 published by Nepal Bureau of Standards and Metrology : or

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Indian Standards IS : 1239 (Part I) - 1990 published by Bureau of Indian Standards, Manak Bhawan, New Delhi, India, or

British Standards BS 1387 : 1967 published by British Standards Institution (BS), British Standards House, London, England.

The acceptance of a tender based upon a Standard or Code proposed by the Supplier shall only signify the Purchaser's general approval to the use of such Standard or Codes and shall not make the Purchaser liable to accept a Standard or Code subsequently found to be inferior to that specified in the corresponding Standard or Code of Practice.

#### 1.4 Test Certificates

Certificates in triplicate shall be provided by the Supplier for each valve, pipe and fittings supplied giving the process of manufacture and the results of the specified tests.

Similar certificates in triplicate shall be provided by the Supplier in respect of materials to be used in the manufacture of the valves, pipes and fittings giving the process of manufacture, chemical analysis (where relevant) and the results of the specified tests.

The material shall be suitably marked to enable them to be identified from references on the certificates.

#### 1.5 Independent and Local Tests

The purchaser reserves the right to carry out any independent or local tests he may deem fit on the completed pipes and fittings or on any material provided under the Contract at any stage during the Contract including the guarantee period. In addition to any relevant clause in the General Conditions of Contract any materials, workmanship or completed pipes and fittings which are shown by such independent tests not to be in accordance with the Specification shall be rejected notwithstanding any previous certificate which may have been provided

#### 1.6 Rejected Goods

Any materials delivered to Site, which are rejected by the Purchaser shall immediately be removed from the Site by, and at the expense of, the Supplier.

Any pipes and fittings, which have been rejected, shall be marked in a distinctive manner, which shall preclude any possibility of their use for the purpose for which they were supplied. Such pipes and fittings may be submitted for re-test following the correction of any defects, where such correction is permitted by the Purchaser.

### 2.0 GALVANIZED MILD STEEL, PIPES AND FITTINGS

#### 2.1 Manufacture and Testing

Tube shall be made from tested quality steel manufactured by any approved process.

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The manufacture and testing of all galvanized steel pipes and fittings shall comply with the current edition of NS, IS, BS or equivalent. Galvanized steel pipe shall be of the class specified in the Bills of Quantities.

Ends of pipes shall generally be screwed at both ends as per NS 199-2046, IS 554- 1975, BS 21 threads or equivalent or as requested by the purchaser. Ends of pipe specials and fittings shall be screw socketed suitable for screwing to NS 199-2046, IS : 554 - 1975 or BS : 21 threads or equivalent pipe threads. Where flanged pipe work is specified this shall be suitable for jointing with other flanged pipe work and valves.

## 2.2 Process of Manufacture

"Medium" and "Heavy" duty galvanized steel pipes and sockets shall be either welded or seamless as agreed to between the purchaser and the manufacturer.

## 2.3 Standard and Non Standard Lengths

The pipe shall be supplied in standard lengths of 6 meters each. Each pipe shall be provided with a corresponding size of one socket at one end and a plastic ring (cover) at the other end for protection of the threads of the pipes.

Non standard lengths shall be approximately 3 meters in length or as required by the purchaser. One socket to be provided with each pipe at one end and a plastic ring on the other end as mentioned above.

In both the cases, the local lengths for each class and diameter shall be the sum of the pipe lengths measured excluding the sockets.

## 2.4 Pipe Dimensions and Tolerances

The pipe wall thickness and outside diameter of the pipes shall comply with Section 2.4 of BS 1378 or equivalent.

The dimensions, weights and working pressures of Screwed and Socketed Galvanized Mild Steel Tubes (including sockets) shall be as per NS 199-2046.

## 2.5 Hydraulic Tests

Each pipe and fittings shall be tested at the place of manufacture to a hydraulic test pressure or 50 bar (MPa) without showing defects of any kinds, the pressure being maintained sufficiently long (in any case not less than three minutes) for proof and inspection.

## 2.6 Galvanizing

After hydraulic testing of each item has been completed, pipes, fittings and flanges shall be thoroughly rescaled, washed as required and then dipped in a bath of molten zinc, containing not less than 98.5% by weight of zinc at a temperature suitable to produce a complete and uniformly adherent coating of zinc. Where tubes are required to be galvanized, the zinc coating on the tubes shall be in accordance with NS 199-2046 or equivalent. Pipes and fittings, which are to be screwed shall be screwed after galvanizing has been completed.

## 2.7 Tests on Finished Pipes



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The supplier shall arrange and carry out tests on the galvanizing in accordance with Appendix A of BS 1387 or equivalent. One pipe per batch of 500 pipes shall be sampled for this test.

The supplier shall also arrange and carry out bending and flattening tests on pipes above 50 mm nominal diameter in accordance with section 2.9 of BS 1387 or Section 14 of IS : 1239 (Part I) – 1990 and as per NS 199-2046. Two pipes per batch of 500 pipes shall be subjected to these tests.

## 2.8 Pipe Specials and Fittings

Galvanized mild steel pipe specials and fittings shall conform to the appropriate dimensions given either in NS 199-2046, BS 1387 or BS 1740 or IS : 1879 - 1987 or equivalent. The material used for the manufacture of malleable cast iron fittings shall conform to any of the grade specified in IS : 2107 - 1977 of IS : 2108 - 1977 or equivalent. Outlets of fittings shall be threaded to dimensions and the tolerances as specified in IS : 554 - 1985 or equivalent. Fittings shall be galvanized to meet the requirements of IS : 4736 - 1986 or equivalent. Pressure test shall be as per section 13 of IS : 1879 - 1987 or equivalent. The dimension and weight of all fittings shall be as per the corresponding section of standards e.g. IS : 1879 - 1987 or equivalent. The ends of all pipe specials shall generally be screw socketed. If the supplier offers screw spigot ended pipe specials, a matching screw socket shall be provided for each end of the pipe specials. All standard lengths shall be supplied with one coupling and the price quoted shall include for this. The fitting shall meet an internal hydraulic pressure of not less than 2.1 MPa or an internal pressure of 1.05 MPa while the fitting is completely immersed in water or light oil.

## 2.9 Flanged Joints

Flanges shall be the boss screwed type in accordance with BS 4505 Table 16/4 or equivalent suitable for screwing to BS : 21 pipe threads or equivalent. Each flange shall be supplied with one set of jointing materials.

Each set of flange jointing materials shall be supplied complete with nuts, bolts, washers and joint rings with an additional 10% as spares. Body bolts and nuts shall be galvanized, joint rings shall be flat section 3 mm thick, medium rubber reinforced with two-ply flax fabric and complying with BS 5292 or equivalent and shall not extend beyond the bolt circle. Bolts and nuts shall be hexagonal and shall be in accordance with BS 4190 or equivalent.

## 2.10 Markings

Each standard length Medium Class galvanized pipe shall be marked with two blue bands 0 mm wide (one band at each end of the pipe) the nominal diameter, the length of pipe and the relevant manufacturing standard. Similarly for light class pipes except that the band colour shall be brown or yellow and that for heavy class red color band or as per NS 199-2046.

## 2.11 Protection Against Damage in Transit

Pipes and specials shall be protected with a suitable varnish through out their entire length. Straight pipes shall be bundled together into convenient lots (for transport) by rope or 105 WG wire or other suitable material in at least three places. Sockets and other small fittings shall be packed in strong wooden boxes.

The threads of all pipes shall be effectively covered with a good quality grease or other suitable compound and each pipe above 50mm diameter shall have a protecting ring affixed to the screwed spigot end. Rates should include for all packaging.

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### 3.0 VALVES, STOP COCKS AND FERRULES

#### 3.1 General

All valves shall be manufactured to an internationally recognized standard and full details concerning such standards shall be provided by the manufacturer for approval before manufacture commences. Where British or Indian Standards are quoted in this specification an equivalent internationally recognized standard is acceptable.

Cast iron shall have properties not inferior to those specified for Grade 14 of BS 1452 or equivalent and shall withstand the test pressure specified. All casting shall be carefully cleaned and dressed off. No stopping or plugging will be permitted in the case of holes or flaws appearing therein, and casting shall be made from first running.

Gunmetal and bronze shall be of such compositions as have been proved in actual service to be the most suitable for the particular purpose. If any casting, forging, bearing or other part should prove to be defective, the Purchaser shall have the power to reject it and the Supplier shall replace it at no extra expenses to the Purchaser.

#### 3.2 Interchangeable Components

All similar equipment shall be strictly interchangeable as a whole and as regards their component parts.

#### 3.3 Protection Against Climatic Conditions

Valves Supplied shall be of the appropriate grade and quality for and shall be adequately protected against the tropical climatic conditions. The Supplier shall take those conditions into account in deciding what grade, quality and protection is required. Cast iron and steel surface of all valves, hydrants and fittings shall be painted with at least two coats of approved bituminous paint. Failure to comply with the requirements of the above will result in rejection by the Purchaser. Valve bodies, protecting tubes, surface boxes and all other casting shall be coated in accordance with BS 5163 or equivalent, for tropical conditions. Where this is not applicable, they shall be thoroughly cleaned and given one coat of bituminous paint. Machined surfaces shall be covered by a suitable rust inhibitor, such as a high melting point grease of approved quality.

All submerged moving parts of the valves, or the pins and spindles etc of submerged moving parts, or faces etc in contact with them shall be of non-corrodible materials. Any parts that show signs of corrosion or wear during the Period of Liability shall be replaced by non-corrodible material of special quality for the purpose at no extra expenses to the Purchaser. Care shall be exercised in the choice of metals for use in the valves to reduce the effects of bi-metallic corrosion to a minimum. The foregoing shall apply also to the moving parts of valves exposed to the weather.

#### 3.4 Works Tests

All valves shall be hydrostatically tested at the place of manufacture to the pressures specified and valves shall satisfactorily pass the specified tests before they are packed for delivery.

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All valves shall be body tested to twice the working pressure stated in the Bill of Quantities. Seat tests to the working pressure stated in the Bill of Quantities shall be carried out on all sluice valves and stop valves.

All sluice valves and stop valves shall be subjected to "open end" test in accordance with BS 1218 or equivalent and each valve shall be subjected to three separate hydrostatic tests as follows:

a)     Seat Tests

- (i)     The tightness of seats shall be tested as follows: with the wedge closed and with the valve fixed at one end only the test pressure shall be applied to one face of the wedge, the other face being at atmospheric pressure. There shall be no visible leakage past the wedge at the hydrostatic test pressure (gauge) specified;
- (ii)    The above procedure shall be repeated but with the valve fixed at the other end and with the pressure applied to that end of the valve.

b)     Body Test

With the wedge open the test pressure (gauge) specified shall be applied to the whole body of the valve. There shall be no visible leakage. The test durations for all tests shall be as in the table below:

NOMINAL DIAMETER MM	MINIMUM TEST DURATION (MINUTES) FOR	
	BODY	SEAT (IF APPLICABLE)
50 and under	0.25	0.25
65 to 150	1	1
200 to 300	2	2

All valves shall be marked with cast-on or stamped lettering stating the body test pressure in meters head of water. The cost of testing shall be included in the contract rates.

3.5     Valves Generally

Valves shall have adequate provision for lubrication, shall cause the minimum of head loss in the open position and shall seal the water passage completely when set.

All valves shall be closed in a clockwise direction unless otherwise specified. Direction of closing to be shown on the hand wheel.

All valves shall be suitable for use with water in the temperature range 10° C to 70° C and for working pressure of 10 MPa (bar) or as otherwise specified.

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Each flanged valve shall be supplied complete with nuts, bolts, washers and joint rings. Joint rings shall be of that section complying with BS 4190 or equivalent and shall not extend beyond the inner edges of the bolt holes. Bolts and nuts shall be hexagonal complying with BS 4190 or equivalent.

All materials which may come in contact with raw or potable water shall be free from toxic substances and shall not foster microbiological growth or give rise to taste, cloudiness or discoloration of the water with which they are or could be in contact.

Rubber used in valves shall be ethylene propylene rubber (EPDM or EPM) or styrene butadiene rubber (SBR) which complies with the above requirements, and is suitable for making a long term flexible seal and is resistant to mechanical, chemical or bacteriological attack leading to deterioration in flexible seal.

### 3.6 Flanges

Flanges for pipe work connections shall in all respect be in accordance with BS 4504 PN 16 or equivalent unless otherwise specified.

### 3.7 Sluice Valves

Sluice Valves shall conform generally to BS 5163/IS 14846/2000 or equivalent and shall but the inside non-rising screw wedge-gate type suitable for waterworks purposes.

The valve gates shall be double-faced cast iron made in one piece. The wedge seats (ring faces) and corresponding body seats shall be gunmetal, machined and having broad bearing surfaces securely fixed to machine recessed. The recesses for the spindle nuts shall be smooth and even so that on opening or closing the valve stresses are evenly distributed over the bearing areas.

The gate guides shall be cast integrally with the valve bodies.

The spindles shall be high tensile bronze, non-rising type and shall have machined square or acme threads. The spindles shall be truly circular throughout their lengths and be of such lengths that when the valves are closed the bottom ends of the spindles engage fully in the spindle nuts. The spindle collars or thrust plates shall be concentric and machined, suitable for the specified test pressure.

The spindle nuts shall be gunmetal and square or acme threaded to suit the spindles. The thickness and bearing areas of the shoulders of the nuts shall be adequate to resist operating thrusts.

Sluice valves shall be operated by tee key and shall be provided with a square iron cap. The rate shall include for provision of one tee key one meter long with each sluice valve.

Opening/closing indicators shall be provided and mounted on all valves of 200 mm diameter and above.

### 3.8 Bib Cocks

Bib cocks shall be of brass and shall be nominal 15 mm diameter con-forming to BS 1010 or IS : 781 - 1984 or equivalent. Inlets shall be male screwed suitable for jointing to 15 mm GI socket. Outlet shall be plain ended. Top shall be round turned crutch. The weight of 15 mm dia bib tap and stop tap shall be 0.40 kg.

### 3.9 Globe Valves

Globe Valves shall be gunmetal, rising stem, handwheel operated with screwed female ends; conforming to IS : 778 - 1984 Class I or equivalent

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### 3.10 Gate Valves

Stop valves shall be gunmetal wedge gate valves, rising stem, hand-wheel operated with screwed female ends; conforming to IS : 778 - 1984 Class I or equivalent.

### 3.11 Ferrule Cocks

Ferrule cocks shall be of gunmetal square head of 15 mm internal diameter swivel balancing screw down ferrules with make inlet and single make outlet; conforming to IS : 10942-2000 or equivalent.

### 3.12 Air Valves

Single orifice air valve shall be of cast iron body, reliable in action and shall operate in such a manner that the balls of the valves cannot be held against the orifice by air pressure alone. Each air valve shall be supplied with an approved isolating device. The inlet shall be make screwed 15 mm diameter suitable for connection to a GMS riser pipe. Maximum operating pressure will be 100 meters head of water.

### 3.13 Marking and Packing

Each valve shall be indelibly marked with the diameter, weight and pressure rating and shall in addition carry a unique reference number to enable each item to be clearly identified to works fabrication records, works test certificates, delivery notes and the like.

All valves shall bear the authorized Standard mark cast on showing to which Standard specification they have been manufactured.

Whenever possible the identification marks except for the "Standard mark" shall be painted on the outside of the item but where there is insufficient smooth surface area to accommodate the identification marks they shall be put on rust proofed metal tags secured to the item with galvanized wire.

Flanges shall be protected with wooden discs attached by service bolts or other approved means. Service bolts shall not be incorporated in the works.

All items shall be properly prepared and packed for delivery and shipping. In particular, small items such as small valves, parts of operating gear, bolts, nuts, gaskets and other joint components shall be crated for delivery. Each crate shall contain a detailed packing list in a waterproof envelope. The outside of the crate shall bear a general description of the contents and identification mark relating it to the detailed packing list.

All valves and fittings shall be securely packed in crates or boxes for protection against damage during transit. The costs of packing shall be included in the contract rates. None of the packing will be returnable.

## 4.0 UNIONS

### 4.1 General

Unions shall either be brass or galvanized malleable iron, as specified in bill of quantities, manufactured in accordance with a recognized international standard. The manufacturer shall

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produce full details concerning the standards to which his goods are produced. All unions shall be suitable for joining GMS pipes manufactures to BS 1387 or IS : 1239(part I) - 1990 or equivalent with threads to BS 21 or equivalent.

#### 4.2 Packing

Packing shall be as for valves.

#### 5.0 FLEXIBLE/DETACHABLE COUPLINGS

Flexible/detachable joints are required for repairs to existing GMS pipes of medium class manufactured to BS 1387 or equivalent specification. They shall be similar to "Viking Johnson Couplings" without central register and shall be capable of withstanding a pressure of 250m head of water. They shall be supplied complete with all bolts and gaskets and shall be suitably protected against corrosion by an approved coating. Sizes required in the range of pipe sizes ND50 to ND100. Full details to be supplied for approval before manufacture.

#### 6.0 FLOAT VALVE

Float valve shall be of heavy duty type for break pressure chamber and conforming to standard IS : 1703 - 1977 (horizontal plunger type or equivalent. The pressure rating shall be 14 Kg/cm<sup>2</sup> and male thread shall be as per corresponding standard.

#### 7.0 NIPPLES

Nipple of various length as required by the Purchaser shall be manufactured of Medium/Heavy duty galvanized mild steel pipes conforming to IS : 1239 (part I) - 1990 or equivalent. Threads to conform with IS : 554 - 1975 or equivalent. The standard lengths are :

100 mm upto 25mm nominal bore  
150 mm for 32 mm & 65 mm nominal bore  
200 mm for 80 mm & 100 mm nominal bore

#### 8.0 BRASS UNION

Brass union shall be used to join HDP pipe and equivalent G.I. Pipe. Dimensions for HDP pipes are as per : 4984 - 1995 equivalent and GI pipes as per IS : 1239 (part I) - 1990 or BS : 1387 - 1967 make threads or equivalent. Type of joint : Expansion joint consisting of :

- a. union body
- b. brass ring
- c. brass expansion plunge (for insertion into to HDP pipe)
- d. neoprene ring for insertion into union body &
- e. flat rubber coaster. Each set to be supplied assembled.

#### 9.0 FLABGE SET (for HDP - GI Jointing)

Flange set to join HDP pipe as per IS : 4984 - 1995 or equivalent to IS : 1239 (part I) - 1990 or BS : 1387 GI pipe (make threads) shall consist of :

- a. female threaded flange
- b. plain unthreaded flange

- 
- c. HDP flange adaptor
  - d. heavy duty rubber gasket and
  - e. nuts, bolts and washer (adequately lightened)

10. GI FLANGE

Flanges shall be female threaded to join GI pipe and valves etc and shall be drilled in accordance with BS : 4504 PN 16 or equivalent. The supply shall be complete with nuts, bolts and washers, all adequately tightened.

11. GI VALVE BOX

GI Pipe Boxes shall be manufactured according to sample made available or the Drawing and GI pipe used must be medium duty conforming to NS : 199 - 2046 or IS : 1239 (part) - 1990 or equivalent. As shown in the drawing one end of the GI pipe shall be fitted with end cap or one set of GI flange and GI blank flange complete with nuts and bolts. The bottom of the GI pipe shall be slotted to allow it to slip over the pipeline and locked into place with 300 mm long M.S. bar by passing through two 10 mm holes drilled near the base.

12. GI VALVE KEY

The Valve Box Keys shall be manufactured according to sample or drawing made available to the manufacturer. Valve Boxes Keys to be manufactured of light duty pipe conforming to Nepal Standard NS : 199 - 2046 or Indian Standard IS : 1239 (part I) - 1990 or equivalent. Other required reducers shall conform to IS : 1879 - 1987 or equivalent.

13. M.S. MANHOLE COVER AND FRAME

Manhole cover and frame shall be manufactured as per drawing or samples made available to the manufacturer.

Manhole Frame to be manufactured from 6 mm thick rolled steel 50 mm wide, 8 mm mild steel bar 100 cm long to be welded to the outside of the frame at 90 degree intervals. Lugs (2 nos) to be made as L sections 100 mm high, 50 mm wide to be manufactured from 5 mm thick rolled steel. Slot 15 mm x 25 mm to be drilled in each lug 10 mm from top of lugs. Bottom end of L section shall be welded at 90 degree to the middle of the outside of the frame.

Cover Frame to be manufactured from 5mm thick rolled steel 50mm wide. Framed to be circular 580mm outside diameter, 8mm mild steel bars 6 nos to be welded to the inside of the frame to form a regular square reinforcement mesh. Handles 2 nos. to be made from 10mm plain steel bar 100mm wide 50mm height to be welded to outside of frame. Lugs 2 nos. to be made from 5 mm thick rolled steel 50 mm wide 100 mm high with slot 15 mm x 25 mm drilled in each lug 10mm from top of each lug. Lugs to be welded flush to the outside of frame with bottom of lug in line with bottom of frame.

Manhole frame and Cover frame shall be painted with two coats of red oxide metal primer.

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#### 14. WATER METER

Water meters are generally used for measuring flows in the mains and house service connection. Domestic water meters are to be as per IS 779-1994 or NS 428-2058 or equivalent. Generally two types of meters semi positive and inferential are available in the market. Inferential water meter has the same accuracy as the semi positive type at higher flows; it passes unfiltered water better than a semi positive meter and is lower in cost. Over all dimensions and nominal capacities of water meters are presented in Table No...3.....

Table No. 3 Dimensions and Capacities of Water Meters

Nominal Size, mm	Overall length including nipple, mm	Over all Width maximum, mm	Over all height maximum, mm	Discharge, lph	
				Semi posit ive type	Inferential type
15	250	130	180	2000	2500
20	290	130	180	3400	3500
25	380	140	200	5500	5500
40	430	230	250	10000	16000
50	470	250	300	15000	23000



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**BUTT FUSION WELDING MACHINE** are also called **HDPE PIPE JOINTING MACHINE** ,Polypropylene pipes thermo fusion welding equipment, hydraulic thermo fusion joining for polyethylene pipes and pipe fittings, **HDPE Butt Welding Equipment**,**B**utt Welders,**b**utt fusion welder.

It is used to butt weld pipe and fittings such as elbow, tees, wye and flange necks without any additional equipment by simply adjusting the clamps` drag bar. It is suitable for welding plastic pipe and fittings made of HDPE, PP, PVDF. Removable PTFE coated heating plate with separate temperature control system. Electrical planning tool; Be made of lightweight and high strength material; simple structure, small and delicate user friendly; Low starting pressure ensures reliable welding quality of small pipes; Separate two-channel timer shows time in soaking and cooling phases; High-accurate and shockproof pressure meter in indicates clear readings.

This includes:\*A machine body with 4clamps and 2hydraulic cylinders with fast couplings;\*A Teflon coated heating plate with separate temperature control system;\*A electrical milling cutter;\*Hydraulic hoses with quick couplings;\*Support for milling cutter and heating plate.

#### **Technical Specifications:**

- Welding Range (mm) : As specified in BOQ
- Welding Type: Butt Fusion
- Power Source: Electric
- Heating Plate Max. Temp. : 270<sup>0</sup> C □ Temp. Deviation in Surface : ≤ ± 5<sup>0</sup> C
- Working Voltage : 220 V 50 HZ

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## 15. Technical Specifications

Bidders shall mention each and every proposed technical details as specified in the technical details.

### 15. General

#### 15.1. General:

The submersible pump with the motor assembly offered shall be suitable to operate continuously throughout the operating range required. They shall be as per IS: 8034 or British Standard or equivalent international Standard and should meet ISO 9001:2008 /14001: 2004 standard. Materials used in the construction should be suitable to fulfil the required duty under the specified condition.

Typical materials to be used in pumps in construction given below are intended as a general guide. Bidders may propose other materials specification if they consider them better suited for the purpose, and guarantee their quality; durability and performance. Necessary catalogues/brochures and certificate of Origin and certificate standard of offered submersible pump shall be made available along with the bid. Label/Name plate indicating the information about the submersible pump and standard should be marked on the pump body.

#### 15.2. Submersible Pump:

##### a. General:

The submersible pumps shall be single or multi-stage units, suspended from a supporting clamp & well cover, capable of taking the entire load of the pump & motor. The pumps shall be of the open line shaft type for lubrication with fluid being pumped and shall be supplied with threaded discharge case, joint coupling and key. It shall be of international standard ISO 9001/2000. **Efficiency of Pump should not be less than or equal to 70%**

##### b. Pump Bowls:

Pump bowl castings shall be free of blowholes, sand holes and other detrimental defects. The finished bowls shall be capable of withstanding a hydro static pressure equal to twice the rated head or 1.5 times the shut-off pressure, whichever is the greater. They shall be vitreous enamelled or baked epoxy coated to provide smooth surface and protection against abrasion and corrosion. It shall be of international standard ISO 9001/2000.

##### c. Impellers:

Impellers shall be made of best quality Bronze or Chrome Steel or Stainless Steel or Noryl Ppo shall be carefully machined and their Vanes shall be hand finished. The impeller shall be statically and dynamically balanced. They shall be fastened securely to the impeller shaft with keys, taper bugs, lock nuts, or set screws. It shall be of international standard ISO 9001/2000.

##### d. Pump and motor shaft:

Shaft shall be of high-terrible stainless steel. (Cr. Steel : AISI 410H:ASTM A276

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### 15.3. Submersible Motor:

a) **The motor** shall be of the squirrel -cage induction & water filled type suitable for across the line starting and shall be capable of reduced - voltage starting. It shall be capable of continuous operation under water at the conditions specified. Motor starting shall be star delta type. It shall be of International standard ISO 9001/2000. Thrust and up-thrust bearing shall be Michell type or equivalent with its resting segments having ball projection of ample capacity to carry the weight of all rotating parts plus the hydraulic thrust shall be incorporated into the pump driver. **Efficiency of Motor should not be less than or equal to 82%**

b) **Motor Power cable** shall be manufactured under IS: 694, international standard or better standard with ISI properly insulated and shall be suitable for continuous operation of required pump. The cable shall be suitable for supported from the columns at several points with clamp or belts.

### 15.4 Control Panel:

The control panel shall be indoor & wall mounted of international standard or better standard with powder coated CRCA Sheet of 1.6 mm thickness and degree of protection: IP42 or equivalent. The control panel shall be incorporated with over load protective relay, single phasing preventer, Phase Sequence relay, start- stop push button, Voltmeter & Ammeter with selector switches & C/T coil, Indicator lamps to indicate TRIP, ON, LOW LEVEL / SINGLE PHASING / PHASE FAIL etc star- delta type starter with air break contactor, S/D Timer (Only if control panel is S/D type), TP MCB up to 15 HP / and above MCCB and shall be of suitable rating for the specified pump. A

Components System certification: ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007, ISO 27001:2005  
Accredited for ISO/IEC 17025:2005 & Product Certification: BIS, IEC, UL, CE, CSA, CCC by ASTA, KEMA, CQC, CPRI & ERD

### 15.5 Spare Parts:

All necessary spares shall be made available when required for pump / motor and panel.

### 15.6 Characteristic curves:

The contractor shall submit, along with his tender, one copy of the characteristic curves or family of same model for the proposed pump plotted on graph. For the pump (or pump unit where overall efficiency is specified) the following characteristic curves shall be shown as ordinates plotted against the rate of flow l/s as abscissa for the complete range of flow for the pump.

1. Test certificates are mandatory for supplied pumps. So, at the time of supply it must be presented.
2. Total Head in Meters (feet)
3. Pump Efficiency ( % )
4. **Pump Efficiency = 70 % or above, Motor Efficiency = 82% or above @ full load, Actual or Overall Efficiency = 57.40% or above.**

The curves shall be plotted in the units specified for the pump. The characteristics curve shall show the performance of the pump in full range of operation from zero to maximum discharge

capacity. The limits of the rate of flow at which the pump can successfully operate shall be indicated on each curve and shall be in accordance with the system head requirements.

### **15.7 TECHNICAL SPECIFICATION OF ELECTRIC SUBMERSIBLE PUMPS**

Liquid Handled	:	Clear water/ permissible sand
Air Temperature	:	2 to 45 <sup>0</sup> C
Allowable solids	:	3000 PPM (MAX)
<b>Sand Content</b>	:	<b>50 - 150 gm/m<sup>3</sup></b>
Humidity	:	100%

▪

#### **▪ PUMP**

Pump Bowl, Suction Casing	:	Close grained Cast Iron, discharge Casing and non-return valve
Impeller	:	Bronze / Chrome Steel / Stainless Steel/ NorylPPo
Pump Shaft	:	Stainless Steel
Casing- Wearing Ring	:	Bronze /Chrome Steel / Stainless Steel/ NorylPPo
Pump Bowl Bearing	:	Bronze / Chrome Steel / Stainless Steel/ NorylPPo
No. of Stage	:	As per required discharge & head
Pump Capacity	:	As defined in BOQ
Head Range	:	As defined in BOQ
Pump Efficiency	:	As defined in Specification

▪

#### **▪ MOTOR**

Power Rating	:	As per head & discharge at best efficiency point
Output	:	As per head & discharge at best efficiency point
Motor Efficiency	:	As defined in specification
Type	:	Submersible water filled
Voltage	:	400+ 10%, - 15%
Frequency	:	50HZ
Duty Type	:	Continuous
Rotor shaft /Bearing Sleeve for motor	:	Stainless Steel (Cr. Steel AISI 410H:ASTM A276)
Motor Lower and upper bearing bushes	:	Bronze
Motor Thrust bearing ring(Michell Type)	:	Graphite /Carbon with C. I. Housing
Motor Casing Component	:	Stainless Steel tubes
Overall Efficiency	:	As defined in specification

### **Quality**

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Submersible pump shall be of ISI, BIS, ISO 9001 or 9002 certified Document must be submitted with tender

■

### **Standard**

*Documents without these papers will not be entertained what so ever.*

### **Additional Specifications of Submersible Pumps than above mentioned.**

Water from the bore holes are clean, non-aggressive water with a temperature between 5<sup>0</sup>C and 30<sup>0</sup>C without solid and/or fibers articles. However, some of the boreholes (Tube Wells) might contain slight solid materials (mud and/or silt) as well as high content of Ammonium (up to 120 mg/l) and Iron (up to 80 mg/l).

This specification covers technical requirements for the design, engineering and testing of the components of submersible pump sets to be installed in tube wells This also includes specification of assemblies, viz. pumping plant accessories and electric control panels.

### **General Specification**

Pumps supplied shall be capable of satisfying the performance requirements in the relevant technical specification. However, the offered submersible pump must be energy effective and well perform in its duty. Low maintenance costs, reliability and trouble-free operation will be the prime consideration when selecting pumps.

Pumps shall be quiet in operation and free from vibration. Pump speed shall not exceed 2900 RPM. The pump should have the maximum efficiency at the specified duty point. Approximate power inputs are given in Schedule of Requirements; however, the minimum efficiency of the pump shall not less than 70%, and should meet the stipulated design discharge and head.

Pumps shall be designed to handle the described liquids and shall run unattended for long periods (15-22 hr./day). A corrosion resistant metal nameplate shall be permanently attached to the pump. Pumps shall have the characteristic of continuously rising head with decreasing capacity from rated capacity to shut-off, unless otherwise specified. Pumps shall have in-built dry-running protection and shall be started by motor control switch panels or electric starters as specified. Pump characteristic curves showing head/discharge, efficiency and power absorbed shall be submitted with the contractor's Tender.

### **General**

The pump set in general shall confirm to IS: 8034 or equivalent British and other International standard. In case of the proposal for Indian Production the pump set shall bear ISI mark. The manufacturer shall be certified as per ISO 9001.

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## **Components of Submersible Pumps**

Submersible pump set shall be a compact unit made up of a submersible pump and a submersible motor with shafts connected by a sleeve and operates beneath the surface of water. This maintenance-free pump set is suspended vertically from raising main when installed.

### **Submersible Pumps**

The submersible pumps shall be multistage centrifugal pumps with radial or mixed flow impellers. The casing of the radial flow impeller pumps shall be clamped together by flat steel hook bolts, whereas that of mixed flow impeller pumps by studs. Between the pump and the motor is the suction casing, a non-return valve shall be fitted to the pump discharge.

### **Submersible Motors**

Submersible motors shall be water filled, water lubricated squirrel case type. The axial thrust generated by the pump is absorbed by a thrust bearing fitted at the bottom of the motor. The diaphragm below the thrust bearing compensates the overpressure which arises as a result of the thermal expansion of the water filled, when the temperature of the winding rises.

### **Bearings**

The pump shall be provided with radial bearings. The motor has radial as well as axial thrust bearings. All the bearings shall be water lubricated and protected to a large degree against the ingress of sand by suitable structural elements.

### **Pump Set/Assembly Components**

Submersible pump set shall have the following minimum components with the following specification:

1. a) Pump Bowl Assembly
2. b) Suction case with Strainer
3. c) Submersible motor
4. d) Submersible (electric) cable

### **Pump Bowl Assembly**

The pump bowl Assembly shall have made of close-grained cast iron, free from blowholes, sand holes or other detrimental defects. The bowl unit shall be capable of withstanding a hydraulic pressure equal to twice the pressure at the rated capacity or 1.5 times the shot off head, whichever is greater. The pump

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shall be equipped with replaceable bearing, whichever provided. The pump shaft shall be made of stainless steel. Impeller may be of enclosed or semi open type and shall be properly balanced. Impeller shall be made of bronze or Noryl i.e. modified PPO as per IS: 8034-1984 or equivalent British Standard. Each impeller shall be securely fastened to the shaft. The delivery outlet of the bowl assembly shall comprise of a spring loaded Non-Return valve. In the pump set/assembly, materials having higher grade or better performance may also be considered provided that there is a sufficient reason and documentary proof of the materials in the present operating conditions.

The bowl assembly shall bear a nameplate giving the following information:

- a) Manufacturer's name or trade-mark (if any)
- b) Model
- c) Serial No.
- d) No of stages
- e) Head, at specified point
- f) Discharge, as specified point g) Overall input, Max.

### **Suction Case with Strainer**

The opening of the suction case for the entrance of the liquid shall be of proper size and shape to avoid eddy currents. The suction case shall be fitted with a strainer made of corrosion resistant material. Suitable sand guard shall be provided just above the suction case bearing to prevent the entry of foreign matter into the suction case.

### **Submersible Motor**

Submersible Motor shall conform IS 9283-1979 or equivalent British Standard and squirrel case induction type suitable for operation on  $415 \pm 10\%$  Volt A.C. with 50 HZ frequency. The motor should be water filled and water lubricated. The thrust bearing design is to be Mitchell type with self-adjusting thrust bearing design is to be Mitchell type with self-adjusting thrust pads resting on individual steel balls to absorb axial thrust under adverse conditions. The thrust bearing shall be of adequate size to withstand the weight of all rotating parts as well as the imposed hydraulic thrust. It shall have sufficient capacity to permit the pump to operate for short periods with discharge valve closed. The starter should be fully rewind able with special PVC insulated winding wire with overhang design to facilitate easy maintenance and repair; the starter stampings are to be suitably locked both in horizontal and circumferential directions to insure positive locking. The motor shall be protected by means of cable glands; rubber seals etc. from ingress of borehole water, sand and other foreign matters. The thrust bearing housing shall be provided with a drain plug to empty the pure water filled into the thrust bearing housing/motor. The rotor shaft shall be provided with a breathing attachment like bellows, diaphragm, etc. to compensate the volumetric variations due to the change in temperature. The motor (casing, shaft, bolts/nuts etc.) shall be made of corrosion resisting materials or suitably treated materials to resist corrosion under normal conditions. The motor should have at least 10% margin at duty point as well as should not get overloaded in the entire range of operation. The motor shall have following information.

1. a) Name of manufacturer



- 
2. b) Motor rating (KW or HP)
  3. c) Nominal speed
  
  4. d) Rated current (A)
  5. e) Rate V voltage (V)
  6. f) Frequency (Hz)
  7. g) Connection system
  8. h) Type of duty (continuous)
  9. i) Materials of casing, shaft, bolts/nuts

There shall be an indication to identify the motor with its pump. A suitable Coupling arrangement shall be provided to couple the pump set directly, which shall be capable of transmitting the total torque of the unit regardless of direction of the rotation.

Technical Specifications for Submersible Pump sets		
Sr.no	Motor Specifications :	
1	IS std for Submersible Motor	IS 9283 - 1995 ( latest revision if any)
2	Motor Rating ( KW / HP)	
3	Operating Voltage (Volt)	50 Hz +3%, -3% / 415 volt +10%,-15% volt
4	Starting method	Star delta
5	Power Supply	3 Phase AC Supply
6	Synchronous speed	2900 rpm
7	Stator body	Stainless steel
8	Stamping	Cold rolled non grain oriented low loss electrical silicon steel grade M45
		OR equivalent IS grade
9	Winding Type / Wire	Wet Type / PVC wire
10	No of Thrust bearing segment	Should be 5 nos
11	Thrust bearing segment MOC	ASTM A743 Gr.CA- 40A
12	Thrust bearing dia	Min. 96mm
13	Thrust bearing plate	Cr.steel + Carbon
14	Rotor Shaft	ASTM A276 Type 410( <b>EN shaft with SS sleeve is not acceptable.</b> )
15	Redial bearing bush	IS318 Gr.LTB- 4
16	No of bearing bush	At least 2 nos - Up side & 2 / 1 lower side

17	Thrust bearing & motor adaptor	CI IS 210 Gr.FG 200
18	Stud NUT	Stainless steel
19	Diaphragm	EPDM
20	Max Permissible Temp.	35 Centigrade (Ambient: 45 Centigrade)
<b>Pumps Specifications :</b>		
21	IS std for Submersible Motor	IS 8034 - 2002 ( latest revision if any)
22	Stage casing	Close grained cast iron conforming to Gr.FG200 of IS :210
23	Suction casing with bush bearing	CI IS 210 Gr.210 FG200
24	Speed	2900 rpm
25	Max Permissible Temp.	35 Centigrade (Ambient: 45 Centigrade)
26	Impeller	12% Chrome Steel IS 3444 Gr.11 / NorylPpo (GFN2)
27	Pumps Shaft	ASTM A 276 Type 410
28	Coupling Sleeve	ASTM A 276 Type 410
29	Strainer	SS

# Technical Specifications

## SPECIFICATION FOR DUCTILE IRON PIPES, FITTINGS AND VALVES

### Ductile Cast Iron Pipes and Fittings

Ductile Cast Iron pipes and fittings shall conform to the requirements of ISO 2531(1998) Class K9 unless otherwise specified.

#### 1) Wall Thickness and Tolerance

Wall Thickness of pipe and fittings and its tolerance shall conform to the following standards.

-Pipe : Class K-9 of ISO 2531(1998)

-Fittings: Clause 8.2, 8.3 (series-A) and 8.4 (series-A) of ISO 2531 (1998)

#### 2) Composition , Class and Mechanical Properties

- The metallurgical composition of ductile cast iron shall conform to the following requirements(ISO): \* 1.7% to 5% Carbon

\* 1.5% to 3% Silicon

- Ductile cast iron socket and spigot pipes and accessories shall be centrifugally casted in accordance with ISO 2531(1998) class K9 or other internationally accepted standards which ensure an equal or higher quality performance. All spun iron pipes and cast iron specials shall be ductile iron unless otherwise specified. Water tightness shall be ensured by the push-on joint for the pipes.

- The pipes of class K9 shall be subjected to hydrostatic pressure test in the factory as follows

DN 200: 50 bar

DN 300: 50 bar

- Ductile Cast Iron shall have the following mechanical properties as a minimum requirement.

	Tensile Strength	Elongation	Minimum Elastic Limits	Maximum
<u>Hardness</u>				
Pipe	420 N/mm <sup>2</sup>	10%	300Mpa	230 HB
Fitting	420 N/mm <sup>2</sup>	5%	300Mpa	250HB

- Ductile cast iron fittings shall be sand casted in accordance with clause 8.2, 8.3 (series-A) and 8.4 (series-A) of ISO 2531 (1998)

#### 3) Standard Pipe Length

Following standard pipe length shall be used in the project.

<u>Diameter</u>	<u>Standard Length</u>
200mm	5.5m or 6m
300mm	5.5m or 6m

#### 4) Lining and Coating

##### - External

Pipes and fittings shall be externally coated in the factory with zinc primer and finished with the bituminous paint or black coal tar based anticorrosive varnish in accordance to ISO 8179(1985) or synthetic resin or equivalent approved external surfaces to be applied with coatings shall be thoroughly cleaned and prepared immediately prior to the application of the primer paint. After the prime coat application, tests shall be carried out for misses or pinholes on the painted surface. The zinc for the coat shall be electrolytic pure zinc of more than 99.9%. The Zinc coat shall be applied by arc gun and bituminous/tar coat by an airless gun in at least 2 layers. The minimum dry film thickness of the finish coat shall be 70 microns.

##### - Internal

##### Pipe

Essentially, pipes shall be lined internally with Sulphate resistant blast furnace cement mortar. The thickness and lining shall be in accordance with ISO 4179(1985). Prior to application of the lining the internal surfaces shall be shot blast cleaned to acceptable standard. The internal surface of the socket shall be free from mortar and coated with same paint as that used for the external coating. The lining shall be applied centrifugally and cement composition shall conform to BS 4027. The Colebrook roughness coefficient of the lining shall be less than 0.03mm.

##### Fitting

The internal surface of fittings except for the flange adaptor shall be coated with epoxy coating material in accordance with manufacturer's standard. The inside surface of the socket shall be coated with the same paint as that used for the external coating. Lining should be suitable for potable water and certified from international health institute, shall be abrasion resistant and shall be subject to the approval of engineer. The thickness of lining shall be not less than 0.3mm. Prior to application of the lining the internal surfaces shall be shot blast cleaned to acceptable standard. The lining shall be applied in layers by spraying method. The Colebrook roughness coefficient of the lining shall be 0.01mm.

#### 5) Type of Joint

Joints for ductile cast iron pipes and fittings shall be those required and specified herein. In Spigot and socket ends joint, seal is achieved by means of suitable retained rubber gasket such as push-on or mechanical joints. The gasket shall be of such size and scope that, when joined in accordance with the manufacturer's instructions, it shall prove a positive seal within the manufacturer's range of maximum joint deflection and slip under all combinations of joints and gaskets dimensional tolerances and in the range of pressure specified.

Joints for pipes and fittings shall be “push-on” joints, mechanical joint, or flange. The water tightness of socket joint shall be ensured by push-on joint and flanges shall conform to ISO 2531 (PN16)

The fittings shall be subject to leak- tightness test carried out in the factory as per ISO 2531.

6) Marking

The year of manufacture, the manufacturer’s identification mark, the class of designation, the nominal size and the degrees of all bend shall be marked noticeably on outer side of each pipe and fitting in English Language. Spigot ends shall have control marks for ease in connection.

7) Accessory

For Push-on Joint

- Gasket : Synthetic rubber of SBR, EPDM or equivalent in accordance with ISO 4633

For Mechanical Joint

- Gasket : Synthetic rubber of SBR or equivalent in accordance with ISO 4633
- Gland : Ductile iron product conforming to the specifications of fittings
- Tee-head bolts & nuts: Ductile iron product coated with synthetic resin or epoxy paint

For Push-on /Mechanical Joint (Restrained Coupling/ Retainer Gland)

- Gasket : Synthetic rubber of SBR or equivalent in accordance with ISO 4633
- Gland : Ductile iron product conforming to the specifications of fittings
- Tee-head bolts and nuts: Ductile iron product coated with synthetic resin or epoxy paint

For flange

- Gasket : Fiber reinforced synthetic rubber of SBR or equivalent in accordance with ISO 4633 with inside-bolt-circle-holes
- Gland : Ductile iron product conforming to the specifications of fittings
- Hexagon bolts & Nuts: Hot dip galvanized mild steel

The gaskets shall be stored strictly in accordance with ISO 2531. The supply shall include for repair sets of epoxy cement mortar for the internal lining and external coating (primer and final) including material, tools and application manual.

## Sluice Valve

- 1) Sluice valves shall be of minimum pressure rating of PN16 and employ double-flange ends. Sluice valves on the pipelines shall be resilient seated- manufactured to JIS B 2301 10K, or equivalent standards. Material of main part shall be as follows:

- Body Ductile cast iron

- Stem                                      Stainless steel or equivalent -      Disc
- Ductile cast iron

## 2) Marking

The year of manufacturing, the manufacture's identification mark, the working pressure, the nominal size and flow direction shall be marked noticeably on the other side of each valve all in English Language.

# Handling and Storing

Pipes and fittings shall be unloaded and stocked by the supplier at the site store approved by the employer and in piles only up to such height which prevents the lower layers from deformation or other damages.

The first layer will be placed on beams, large enough to give sufficient isolation from the ground and the pipes will be secured by wedges. Each layer will be separated from the next by an adequate number of beams (at least two).

Care shall be taken during loading, transporting and unloading to prevent damage to the pipes, fittings or coatings. In case pipes or fittings are found defective those shall not be accepted and shall be replaced. Any damage to the pipe coating and fitting coating shall be repaired as directed by employer.

Special handling of pipes and fittings shall be in accordance with the manufacturer's instruction.

All pipes shall be bundled or packed in such a manner as to provide adequate protection for the ends, threaded or plain, during transportation.

Loading, unloading and handling shall be carried out using special hooks with a curved plate to fit the curvature of the pipes or webbing aligns not less than 30 cm wide or other means approved by the Engineer. Coated pipes shall be transported on trucks or trailers fitted with approved padded timber cradles shaped to fit the curvature of the pipes and of adequate dimensions so as to prevent any damage to the pipe coating. Successive tiers of coated pipes shall be separated by similar suitable shaped timber cradles when more than one tier of pipes is being transported. Pillows shall be provided between securing chains and lashing when load are being transported.

Particular care shall be taken during unloading, loading, handling and transportation to avoid distortion, flattening, denting, scoring or any other damage to the pipes, fittings and any damage to the external or internal coating or lining of the pipes, fittings etc.

Fittings shall not be stacked more than one tier high and shall be adequately supported clear of the ground on timbers all to the Employer's approval. The supplier shall provide appropriate packing for all transport to site. The Packing must be specifically suited to the proposed pipes.

All components shall be packaged, finished or otherwise prepared such that they may safely be stored outdoors for an extended period. Prior to shipment all unpainted surfaces, including bolts and nuts, machined surfaces, tapped holes and studs and all other exposed ferrous surfaces shall be protected with a heavy coat of suitable grease or other easily removed corrosion-protective material.

All rubber gasket and glands and other components which are subjected to deterioration by ultraviolet light shall be packed so as to exclude sunlight.

Crated Small items shall be delivered and stored in their original containers.

Each crate, box and other packing shall be clearly labeled with weatherproof marking identifying the quantity and exact nature of the contents there of, such that materials may be readily identified without opening of the crates.

The supplier shall take all the precautions to avoid any corrosion or deterioration of the outside coating and shall protect the pipes from sunlight, dew, wind and other inclement of the weather.

## Inspections and Tests

Tests and Inspections shall be carried out at the following times or milestones and places:

- a) The Supplier has to engage an Independent Agency (IA) and the IA should be Internationally recognized i.e. Crown Agent, U.K., or SGS, Switzerland or their overseas offices to ensure quality control, in respect of the specifications and quality of goods and the certificate drawn up after inspecting the goods to be procured by the competent quality control institution.
- b) The IA will inspect and witness key tests conducted during Manufacture of Goods and certify their compliance with the Specifications. The Supplier shall allow access to any place in which the Goods are being manufactured for the Purchaser and IA for the purpose of inspection and witnessing of tests.
- c) The cost for all testing as specified is deemed to be included in the Supplier's contract rate for the supply of Goods.
- d) Supplier has to arrange manufacture's factory visit at the time of testing for three (3) officer staffs of NWSC. The Supplier shall bear all of the cost for travelling, lodging and fooding.
- e) The following inspections and tests shall be performed at final acceptance:
  - (i) The purchaser shall appoint an Inspection Committee/Inspection Officer/Inspection authority to inspect the goods delivered by the Supplier under this contract. The inspection shall be carried out at the place of delivery soonest possible after the arrival of the complete consignment and not later than fifteen days from the date of receipt of notification from the Supplier stating that the goods are ready for inspection.
  - (ii) The Supplier or his representative shall be responsible for testing and demonstrating to the Purchaser's Inspection Committee/officer/ Inspection authority that the goods meet the specification requirements.

- (iii) All expenses involved in demonstrating compliance of the offered goods to the specifications shall be at the expense of the Supplier. Should there be any defect in material or workmanship, the Supplier shall correct or cause to be corrected such defects or deviation from the contract requirement or replace at his own expenses within forty five days from the date of such inspection.
- (iv) The Supplier shall be completely responsible for the goods until accepted by the Purchaser and should there be any items missing (according to the Invoice and/or packing list) as compared to contract requirements of such items, or if any item is or damaged, the Supplier shall restore the same as soon as possible.

Goods when found to meet all the requirements of the contract, the Inspection Committee/Inspection Officer/ Inspection authority shall issue a certificate of acceptance and the warranty period of the said goods shall be enforced from the date of issuance of this certificate.



The Estimated amount is NRs. 1,989,979.04 (Inclusive VAT and transportation to respective sites)

The Bidders shall submit:

Copy of Firm Registration Certificate

Copy of VAT and PAN Registration Certificate,

Tax Clearance Certificate of F/Y 2080-81