

GUJARAT WATER SUPPLY & SEWERAGE BOARD

GANDHINAGAR

(A WHOLLY OWNED GOVERNMENT OF GUJARAT UNDERTAKING)



Name of Work: Comprehensive Operation & Maintenance of Civil & Electromechanical assets such as intake wells structures, HR on NMC Canal, elevated service reservoirs (E.S.R), HGLR, sump, water treatment plant (Satun 60.00 mld & Zazam 6.00 mld), chemical house, staff quarters, pump house, all bulk transmission and distribution pipelines, valves, all Head works, TW, Canal pumping machinery & electrical equipment etc. for the Radhanpur-Santalpur RWSS water supply scheme/s, including supply of potable water to all the 126 villages/11 habitations/1 towns for 60 months period. Taluka: Radhanapur, Santlapur, District: Patan based on NMC at Rankpur HW. Including supply of chlorine gas & PAC 10% Liquid. (Excluding the cost of Electricity Bill, Raw Water Charges, All type of Pipes, Sluice Valves, Air Valves)

Estimated Cost: Rs. 20,22,72,820.61

VOLUME – I

TECHNICAL BID

Chief Engineer

Zone –2

Ahmedabad

THIS PAGE IS LEFT INTENTIONALLY BLANK

VOLUME I**INDEX**

SR. NO.	PARTICULARS
Section-1	Instruction to Bidders
1	Notice Inviting Tender
2	Bid Data Sheet
3	Instruction to Bidders
4	Qualification Criteria and Evaluation Procedure
5	Bid Forms
Section-2	Scope of Services
6	Scope of Work
7	Annexures
Section-3	Conditions of Contract
8	General Conditions of Contract
9	Definitions & Interpretation
10	Special Conditions of Contract

THIS PAGE IS LEFT INTENTIONALLY BLANK.

Section I: Instructions to Bidders

1. NOTICE INVITING TENDER

Executive Engineer, Public Health Works Division, Radhanpur Jalbhavan, Behind Referral Hospital, Radhanpur, Dist:-Patan -385340 Phone No. 9909234035, invites tender for below mentioned work by E-Tendering System.

1.	Name of work	:	Comprehensive Operation & Maintenance of Civil & Electromechanical assets such as intake wells structures, HR on NMC Canal , elevated service reservoirs (E.S.R), HGLR, sump, water treatment plant (Satun 60.00 mld&Zazam 6.00 mld), chemical house, staff quarters, pump house, all bulk transmission and distribution pipelines, valves,all Head works, TW,Canal pumping machinery & electrical equipment etc. for the Radhanpur-Santalpur RWSS water supply scheme/s, including supply of potable water to all the 126 villages/11 habitations/1 towns for 60 months period. Taluka: Radhanapur, Santlapur, District: Patan based on NMC at Rankpur HW. Including supply of chlorine gas& PAC 10% Liquid. (Excluding the cost of Electricity Bill, Raw Water Charges, All type of Pipes, Sluice Valves, Air Valves)
2.	Estimated Cost	:	Rs 20,22,72,820.61
3.	Eligibility of contractor	:	Any bidder with “A” class& aboveof registration or higher in R&B/WRD of Govt. of Gujarat. However, the bidder will have to Post Qualify as per Financial & Technical Criteria given in the bid document.
4.	Last date of submission of tender	:	17-07-2026 up to 18:00 Hrs

Note: GWSSB reserves the right to reject any or all tenders without assigning any reason. For detailed information regarding tender & conditions, one may contact office mentioned above during office hours and is binding to all.

**Executive Engineer
Public Health Works Division,
Radhanpur**

2. BID DATA SHEET

1	Department Name	Gujarat Water Supply & Sewage Board
2	Circle/Division	Public Health Circle, Palanpur/ P.H. WorksDn, Radhanpur.
3	Tender Notice No	of 2026-27
4	Name of Project& Scheme Type:	Comprehensive Operation&Maintenance for 60 months period for the Radhanpur&Santalpur RWSS Taluka: Radhanpur and SantalpurDistrict: Patan
5	Name of Work:	Comprehensive Operation & Maintenance of Civil & Electromechanical assets such as intake wells structures, HR on NMC Canal , elevated service reservoirs (E.S.R), HGLR, sump, water treatment plant (Satun 60.00 mld&Zazam 6.00 mld), chemical house, staff quarters, pump house, all bulk transmission and distribution pipelines, valves,all Head works, TW,Canal pumping machinery & electrical equipment etc. for the Radhanpur-Santalpur RWSS water supply scheme/s, including supply of potable water to all the 126 villages/11 habitations/1 towns for 60 months period. Taluka: Radhanapur, Santlapur, District: Patan based on NMC at Rankpur HW. Including supply of chlorine gas&PAC 10% Liquid. (Excluding the cost of Electricity Bill, Raw Water Charges, All type of Pipes, Sluice Valves, Air Valves)
6	Estimated Contract Value (INR)	Rs. 20,22,72,820.61 (5 years O & M Cost)
7	Period of O & M of scheme (in Months)	60 Months
8	Bidding Type	Two Bid System
9	Bid Call (Nos)	1
10	Tender Currency Type	Single
11	Tender Currency Settings	Indian Rupee (INR)
12	Rebate	Applicable
13	Amount Details	
14	Bid Document Fee / Bid Processing Fees / Tender Fee:	Rs. 18000/- (Rupees Eighteen Thousand Only)
15	Bid Document Fee Payable To:	Demand draft in favour of Executive Engineer, P.H. Works Division, Radhanpur
16	Bid Security/EMD/Proposal Security (INR):	Rs. 20,23,000.00(Rupees Twenty Lacs Twenty-Three Thousand Only)
17	Bid Security / EMD In Favour of:	Executive Engineer, P. H. Works Division, Radhanpur.

18	Tender Dates	Note: All Dates are in dd/mm/yyyy, hr: min as per Indian Standard Time (IST)
19	Bid Document Downloading Start Date	17/06/2026 18:00 onwards
20	Bid Document Downloading End Date	17/07/2026. 18:00:00 hrs
21	Last Date & Time for Online submission of Bids	17/07/2026.18:00:00 hrs
	Pre-Bid Meeting Date and Time Address:	03/07/2026.12:00:00 hrs Chief Engineer, Zone-2, Jalbhavan, B/H Town Hall, Ellisbridge, Ahmedabad.
22	Physical Submission of documents last Date & Time	24/07/2026 18:00:00 hrs
23	Bid Opening Date	27/07/2026. 12:00:00 hrs (If possible)
24	Bid Validity Period	180 Days from the last date of submission of bid.
25	Physical submission of Tender Fee, Earnest Money Deposit and PQ supporting document.	<p>Instrument of tender fee & EMD shall be submitted in electronic format only through online (By scanning while uploading the bid). This submission shall mean that Tender Fee and EMD are received for purpose of opening the bid. Accordingly offer of only those shall be opened whose tender fee and EMD is received electronically. However, for the purpose of realization of instrument of tender fee & EMD, bidder shall send the same in original through SPEED POST/HAND DELIVERY so as to reach to “Executive Engineer, Public Health Works Division-Radhanpur, Jalbhavan, Behind Referral Hospital, Radhanpur, Dist: -Patan -385340” of Seven days from the last date of bidding by 15:00. For not submitting DD/FDR/BG in original, bidder shall be banned to participate in any tender of the Board for period of 3 years as a penal action.</p> <p>Any document in supporting to tender bid shall be submitted in electronic format only through online (by scanning etc.) and submission only in hard copy will not be accepted separately.</p>
26	Payments details	<ol style="list-style-type: none"> 1. Document submission of Tender fee, Earnest money deposit, PAN Card shall be uploaded online only. 2. Tender Fee (Document fee) amounting to Rs.18000.00 (Rupees Eighteen Thousand only) in favour of “Executive Engineer, Public Health Works Division, Radhanpur” in form of Demand Draft shall be issued by any nationalized bank or as per list mentioned in GR of. Finance Department, GR. No: FD/MSM/ e-file/ 04/ 2025/ 2712/ DMO, Date:01/04/2026 (Enclosed) as per Annexure-I attached here with <p>Earnest Money Deposit Rs.20,23,000.00(Rupees Twenty lacs Twenty-Three Thousandonly) in form of FDR or Bank Guarantee in</p>

		favour of “Executive Engineer, Public Health Works Division, Radhanpur” valid up to 28 days from the date of closure of the bid validity period of 180 days i.e. (Total of 180+28=208 days) , shall be issued by any nationalized bank or as per list mentioned in GR of. GR of. Finance Department, GR. No: FD/ MSM/ e-file/ 04/ 2025/ 2712/ DMO, Date:01/04/2026 (Enclosed)
	OTHER DETAILS	
27	Officer Inviting Bids:	Superintending Engineer, Public Health CirclePalanpur, GWSSB Jal bhavan Building, 1st Floor, Behind Adarsh School, Palanpur– 385001
28	Bid Opening Authority:	Circle core team
29	Address:	Office of Superintending Engineer, Public Health Circle, GWSSB Jal bhavan Building, 1st Floor, Behind Adarsh School, Palanpur– 385001
30	Contact Details of Officer Inviting Bid:	Phone:9978406544
31	Submission of tender	<p>The following documents shall be uploaded while submitting the BID online:</p> <ul style="list-style-type: none"> • Scanned copy of Demand Draft as tender fee • Scanned copy of FDR / BG as EMD • Scanned copy of Valid Registration as ‘A’ Class & above as Civilor Electrical Contractor in R & B/ Water Resource Department, Government of Gujarat • Electrical contractor’s license issued by Electric Licensing Board, Gandhinagar • Scanned copy of PAN card • Scanned copy of GST registration • Income tax return certificate • Scan copies of financial documents, Scan copies of Experience Certificates of O&M of project and other documents as per evaluation criteria. <p>In addition to the documents mentioned above, the documents required as per attached Forms & Annexure are also to be uploaded. Bidder shall submit their offer i.e., technical bid as well as price bid in electronic format on stipulated website & date as mentioned in the tender document. No offer in physical form will be accepted.</p>
32	General Terms & Conditions	As Per Tender Document

3. INSTRUCTION TO BIDDERS

A. GENERAL

3.1.1. General terms& instructions

No Bidder shall submit more than 1 (one) Bid for the Project.

- 1) The Bid Document Fee will not be refunded under any circumstances.
- 2) EMD in the form specified in tender document only shall be accepted.
- 3) The offer shall be valid for 180 days from the last date of submission of bid.
- 4) Tenders without Bid Document Fee, Earnest Money Deposit (EMD), Valid Registration Certificate and which do not fulfil all or any of the conditions or those submitted incomplete, in any respect shall not be considered for evaluation.
- 5) Not more than one tender shall be submitted by a Bidder.
- 6) Conditional tender shall not be accepted.
- 7) GWSSB reserves the right to accept the lowest responsive offer, based on evaluation of the scheme and reject any or all tenders without assigning any reason.
- 8) Tender notice shall form a part of contract document.
- 9) The bidders are advised to read carefully the "Instruction" and "Eligibility Criteria" contained in the tender documents.
- 10) The internet site address for E-Tender is <https://tender.nprocure.com/> and that of corporate website is watersupply.gujarat.gov.in

Details to be furnished along with application:

Interested Bidders can view these tender documents online. The bidders who are interested in bidding in these tenders can download tender documents as mentioned above.

Tender Documents are available only in electronic form. Bidders shall upload the tender documents as per timeline specified as above, Tender fee and Bid Security (EMD) shall have to be furnished as specified in **Tender Notice**. The intending bidders have to submit the following documents also. The bidder should submit all the forms electronically only.

Stamp Duty Charges

Stamp charges, wherever necessary shall be borne by the Contractor. The contract agreement will be executed on non-judicial stamp paper of the value of Rs. 300/- (Rupees Hundred Only).

3.1.2. Corrupt or Fraudulent Practices

GWSSB requires that bidders/suppliers /contractors to follow the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy. Defines for the purposes of this provision, the terms set forth below as follows:

- i. "Corrupt Practices" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving or soliciting of anything of value to influence the Action of any such official in the procurement process or in contract execution; and
- ii. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the determination of the Borrower and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the borrower of the benefits of free and open competition.
- iii. Will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
- iv. Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt and fraudulent practices in competing for, or in executing a contract.

3.1.3. Work Schedule

All Bidders are cautioned that tenders containing any deviation from the contractual terms and conditions, specifications or other requirements may be rejected as non-responsive.

Price bid of bidders qualified in primary bid shall be opened for evaluation of price and further decision of accepting the tender will be taken.

All bidders are requested to discuss and obtain clarifications or additional information as may be required by them.

3.1.4. Eligible bidders

A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if any of, including but not limited to, the following apply:

- 1) they receive or have received any direct or indirect subsidy from any of them; or

- 2) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
- 3) a Bidder was affiliated with a firm or entity that has been hired (or is proposed to be hired) by the Employer or Borrower as Employer's Representative for the Contract

A Bidder shall not be under suspension from Bidding by the Employer as the result of the execution of a Bid–Securing Declaration.

Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.

3.1.5. **Contents of this document**

The Bidding Document consists of two volumes, which include all the sections indicated below, and should be read in conjunction with any Addendum issued by GWSSB.

1) Volume-1: Instructions to Bidder, Scope of Work and General Conditions

- (a) Section 1 Instructions to Bidders (ITB)
- (b) Section 2 Scope of Work
- (c) Section 3 Conditions of Contract

2) Volume-2: Price Bid

3.1.6. **Addenda & Corrigenda**

Addenda and corrigenda will form, a part of the contract documents, and full consideration shall be given to all addenda and corrigenda in the part of tender documents.

Tenderers shall verify the number of addenda and corrigenda issued. if any and acknowledge the receipt of all addenda and corrigenda to the Engineer and failure to do so may cause the tender to be rejected.

All addenda, corrigenda issued by GWSSB and sent to the contractor shall be a part of the contract.

3.1.7. **Download of Tender**

The tender document for this work is available only in electronic format, which bidders can download free of cost from the internet site <https://tender.nprocure.com/>

B. PREPARATION OF BIDS**3.1.8. General**

Bidders shall be aware of the provision of conditions of particular application.

- 1) The intending Tenderer should visit the site, examine the site details, including geological and geo-hydrological conditions and verify the technical details given in the tender, collect additional or supplementary data as may be required and formulate their offer accordingly.
- 2) **Intending tenderers shall have the liberty to send technical query relating to the work and the Tender Document in hard copy to the office before Prebid meeting or 7 days of last date of bid submission in case if no pre-bid meeting is proposed.**
- 3) All Tenderers are cautioned that tenders containing any deviation from the contractual terms and conditions, specifications or other requirements will be treated as non-responsive and rejected outright.
- 4) Conditional tenders shall be treated as non-responsive and rejected outright.
- 5) Contractors will have to quote for the entire work and all items mentioned in the schedules containing bill of quantities and scope of work. Alternative offer is not acceptable and such offers will be considered non-responsive and out rightly rejected.
- 6) Contractors should invariably give elaborate and correct information in Schedules enclosed with this Post qualification Bid. They should also give whatever additional information in support of their claim for qualifying them as technically competent and financially sound agency to carry out the work under this contract and for evaluation of Post- qualification Bid and selection of contractors for opening of the Price Bid.
- 7) After opening the Post-qualification and Technical Bids, the procedure of post-qualification will be adopted and Price Bid of only such post-qualified contractors will be opened.

3.1.9. Language of Bid

Tender shall be submitted in the prescribed form in *English*. All literature and correspondence in connection with tender shall be. in *English*.

3.1.10. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

3.1.11. Contact Authority

The following officers may be contacted for any further information on the tender.

Sr. No.	Name of Officer	Designation & Address	Contact Nos.	
			Office	Mobile
1.	Mr. S.V. Panchal. Deputy Executive Engineer	Deputy Executive Engineer , Jalbhavan, Satun WTP, Radhanpur, Dist: -Patan - 385340		☎ 9099052680
2.	Mr. K. R. Patel Executive Engineer	Executive Engineer , Jalbhavan, Behind Referral Hospital, Radhanpur, Dist: - Patan -385340	(02744) 220031	☎ 9909234035
3.	Mr.S. Y Mansuri Superintending Engineer	Superintending Engineer Office of Superintending Engineer, P.H. Circle, GWSSB, Jal Bhavan, 1 st Floor, Behind Adarsh School Palanpur	(02742) 257071	☎ 9978406544
4.	Smt. B. A. Mistry Chief Engineer	Chief Engineer Office of Chief Engineer, Zone-2, GWSSB, Jal Bhavan, B/H. Mangaldas Town hall, Ahmedabad.		☎ 9978406701

3.1.12. Documents comprising the bid

Tenderer must submit:

- 1) Tender shall be considered only if accompanied by full information as required under this tender.
- 2) The Tenderer must digitally sign the tender.
- 3) Any tender containing vague and indefinite expressions, which are against the terms and conditions laid down by GWSSB, will be considered as non-responsive.
- 4) Tenderers are requested to furnish all the technical data, description literature, leaflet and supplementary description and relevant specification, in English Wherever required the tenderers, to supplement may furnish additional information and data, amplify or clarify the information required in the specification online only.
- 5) The tenders shall indicate in a summary form:
 - a) Accessories/fitments which are standard with the equipment which though not specified in the tender are included in the scope of supply and are included in tender price.
 - b) Accessories/fitments which may occasionally or frequently be required but have been specifically excluded by the tenderers from the scope of supply and which are not included in tender price.

3.1.13. Letter of bid & schedules

The Letters of Technical Bid and Price Bid, and the Schedules, and all documents listed under ITB 2.1.9, shall be prepared using the relevant forms furnished in Sub section 5 (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested, and as required in the BDS.

3.1.14. Alternative Bids

Alternative Bids are not allowed.

3.1.15. Currency

The Rates and Prices shall be quoted in the Indian Rupees.

3.1.16. Validity of Bids

The bid proposal shall remain valid for 180 days from the last date of submission of Technical Bid. Tender valid for a shorter period may be rejected by the GWSSB as non-responsive.

The Bidder is expected to examine all instructions, forms, terms, and requirements in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the Bid. Bidders should visit and inspect site and submit bids online accordingly. GWSSB shall presume that the Bidder who submits his bids online has properly understood the tender and is fully aware of the site conditions.

3.1.17. Bid Security/ Earnest Money Deposit

The Tenderer shall furnish, as part of its Tender, Earnest Money Deposit for the amount as indicated in the invitation for tender.

- 1) Any Tender without EMD will be rejected by the GWSSB as non- responsive.
- 2) Unsuccessful Tenderer's Earnest Money will be discharged / returned as Early as possible.
- 3) The successful Tenderer's Earnest Money will be discharged upon the Tenderer signing the Contract and furnishing the performance/security Deposit.
- 4) No interest will be paid on Earnest Money Deposit.

3.1.18. Format and signing of tender

Tenders signed by the Tenderer or a person or persons duly authorised to sign the Tender. The power of Attorney in favour of the person authorised to sign the Tender shall accompany the Tender.

C. SUBMISSION & OPENING OF BIDS**3.1.19. Submission of tender**

- 1) The Bidder must submit online duly filled in the entire tender document i.e. technical bid and price-bid available on website the rate and the along with other details in Schedule B of tender document.
- 2) The bidder shall fill the required details/ data/ information in the prescribed form of tender document.
- 3) Tender in offline mode will not be accepted.
- 4) The tender i.e. technical bid and Price bid, dully filled in shall be uploaded on <https://tender.nprocure.com/> up to the date and time mentioned in the Tender Notice.
- 5) The employer at his discretion can extend the last date for submission of tender by amending the bidding document in which case all rights and obligations of the employer and bidder will thereafter be subject to the last date as extended. The bidder shall be responsible for extending the validity of tender, accordingly, failing which his bid shall be rejected as non-responsive.
- 6) Bidders will have to submit F.D.R. or Bank Guarantee for Earnest Money Deposit and Demand Draft of tender fee in a separate sealed envelope and other technical documents in another sealed envelope. The documents shall be submitted by RPAD/Speed Post/ Hand Delivery only to the designated officer, as mentioned in the Tender Notice. Each cover must clearly be marked with the contents i.e. **TENDER FEE & EMD** and **“TECHNICAL BID DOCUMENT”**

3.1.20. Method of tendering

- 1) If the tender is uploaded by an individual, it shall be digitally signed by the individual.
- 2) If the tender is uploaded by a proprietary firm, it shall be digitally signed by the proprietor.
- 3) If the tender is uploaded by a limited company or a corporation, it shall be digitally signed by a duly authorized person holding the powers of attorney for signing the tender. Such limited company or corporation may be required to furnish satisfactory evidence of its existence before the contract is awarded. They should also furnish Articles of Memorandum of Association.
- 4) Each bidder shall submit only one bid for the particular work. A bidder who submits more than one bid in the particular work will be disqualified.
- 5) All witnesses and sureties shall be person of status and probity their full name, occupation and addresses when they fill the vendor registration form provided in the website. www.gwssb.nprocure.com
- 6) In case at time of tender uploading, if any of the above information has changed then the Bidder shall correct the same by making the modification in his personal profile.

3.1.21. Deadline for submission of bid

Bids must be received by the Employer at the address specified above not later than mentioned in the BDS.

The Employer may, at its discretion, extend the deadline for submission of bids by issuing an addendum, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

3.1.22. Late Bid

Any bid received by the Employer after the deadline for submission of bids will be rejected and returned unopened to the bidder.

3.1.23. Modification & withdrawal of bids

The bidder may modify or withdraw its bid after bid submission, provided that written notice of the modification or withdrawal is received by the Employer prior to the deadline for submission of bids. However, no modification or withdrawal shall be permitted and accepted after the deadline for submission of bids.

No bid may be modified by the bidder after the deadline for submission of bids.

Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity shall result in the forfeiture of the bid security.

3.1.24. Opening of Technical proposal

The Employer will open the technical proposals, including modifications made in the presence of bidders' representatives' online website who choose to attend at:

Venue: **Office of Superintending Engineer, Public Health Circle, GWSSB Jal bhavan Building, 1st Floor, Behind Adarsh School, Palanpur– 385001**

Date & Time: 00/00/2026 @ 12.00 Hrs.

The bidder's representatives who are present shall sign a register evidencing their attendance.

The price proposals will remain unopened until the time of bid opening of the price proposals. The time and date and location of the bid opening of the price proposals will be given through mail online by the Employer and will follow the receipt of approval by the GWSSB of the evaluation of the technical proposals.

The bidder's name, bid modifications and withdrawals, such other details, as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening. The bidders' representatives will be required to sign this record.

The Employer shall prepare minutes of the bid opening, including the information disclosed to those present.

3.1.25. Confidentiality

Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process. Any effort by a bidder to influence the Employer's processing of bids or award decisions by any way may result in the rejection of the bidder's bid.

D. EVALUATION & COMPARISON**3.1.26. Preliminary examination of technical proposal**

The Employer will examine the bids to determine whether they are complete, whether the documents have been properly signed, whether the required security is included, and whether the bids are generally in order. Any bids found to be non-responsive for any reason or not meeting the minimum levels of the performance or other criteria specified in the bidding documents will be rejected by the Employer and not included for further consideration.

3.1.27. Examination of bids and determination of responsiveness

- 1) Prior to the detailed evaluation of bids, the Employer will determine whether each bid (a) meets the eligibility criteria (b) has been properly signed (c) is accompanied by the required securities (d) is substantially responsive to the requirements of the bidding documents and (e) provides any clarification and/or substantiation that the Employer may require to determine responsiveness pursuant.
- 2) A substantially responsive bid is one that conforms to all the terms, conditions, and specifications of the bidding documents without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works (b) Which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under the contract or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- 3) If a bid is not substantially responsive, it will be rejected by the Employer, and cannot subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

3.1.28. Evaluation and comparison of technical proposal

The Employer will carry out a detailed evaluation of the bids in order to determine whether the bidders are qualified and whether the technical aspects are substantially responsive to the requirements set forth in the bidding documents. In order to reach such a determination, the Employer will examine the information supplied by the Bidders and other requirements in the bidding documents, taking into account the following factors:

Qualification:

- 1) The determination will take into account the Bidder's financial, technical and production capabilities and past performance; it will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Employer deems necessary and appropriate; and
- 2) An affirmative determination will be a prerequisite for the Employer to continue with the evaluation of the technical proposal; a negative determination will result in rejection of the Bidder's bid.

Technical:

- 1) Overall completeness and compliance with the Employer's Requirements; the technical merits of plant and equipment offered and deviations from the Employer's Requirements; suitability of the facilities offered in relation to the environmental and climatic conditions prevailing at the site; quality, function and operation of any process control concept included in the bid;
- 2) Achievement of specified performance criteria by the facilities;
- 3) Compliance with the time schedule called for in technical proposal and any alternative time schedules offered by Bidders, as evidenced by a milestone schedule provided in the bid;
- 4) Any deviations to the commercial and contractual provisions stipulated in the bidding documents.

3.1.29. Clarification of technical proposals

The Employer may conduct clarification meetings with any Bidder to discuss any matters, technical or otherwise, where the Employer requires amendments or changes to be made to the Technical Proposal.

Any effort by the bidder to influence the employer in the Employer's evaluation of technical proposals, bid comparison or the Employer's decisions on acceptance or rejection of bids may result in the rejection of the bidder's bid.

3.1.30. Invitation to attend opening of price proposals

At the end of the evaluation of the technical proposals the Employer will invite bidders who have submitted substantially responsive technical proposals and who have been determined as being qualified for award to attend the bid opening of the price proposals. Bidders shall be given reasonable notice of the price proposal bid opening.

The Employer will notify Bidders that have been rejected on the grounds of being substantially non-responsive to the requirements of the bidding documents in writing

3.1.31. Opening of price proposals

The Employer will open the price proposals of all bidders who submitted substantially responsive technical proposals at the time and date at the location advised to the bidders. The bidder's representatives who are present shall sign a register evidencing their attendance.

The bidder's names, the Bid Prices, the total amount of each bid, any discounts, and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening. The bidder's representatives will be required to sign this record.

The Employer shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with Sub-Clause.

3.1.32. Clarification of price proposals and contacting the employer

To assist in the examination, evaluation and comparison of price proposals, the Employer may, at its discretion, ask any bidder for clarification of its bid. The request for clarification and the response shall be in writing or by cable.

No bidder shall contact the employer on any matter relating to its bid from the time of opening of price proposals to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

Any effort by the bidder to influence the Employer in the Employer's evaluation of price proposals, bid comparison or contract award decisions may result in the rejection of the bidder's bid.

3.1.33. Preliminary examination of price proposals and determination of responsiveness

The Employer will examine the bids to determine whether they are complete, whether the documents have been properly signed, whether the required security is included, whether the bids are substantially responsive to the requirements of the bidding documents; and whether the bids provide any clarification and/or substantiation that the Employer may require.

A substantially responsive bid is one which conforms to all the terms, conditions and requirements of the bidding documents, without material deviation or reservation and includes the amendments and changes, if any, requested by the Employer during the evaluation of the bidder's technical proposal.

If a price proposal is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

3.1.34. Correction of errors

Price Proposals determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Arithmetic errors will be rectified on the following basis. If there is a discrepancy between the unit rate and the total cost that is obtained by multiplying the unit rate and quantity, the unit rate shall prevail and the total cost will be corrected unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost as quoted will govern and the unit rate corrected. If there is a discrepancy between the total bid amount and the sum of total costs, the sum of the total costs shall prevail and the total bid amount will be corrected.

The amount stated in the Form of Bid for Price Proposal will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, its bid will be rejected, and the bid security may be forfeited.

3.1.35. Evaluation and comparison of price proposal

The Employer will evaluate and compare only the bids determined to be substantially responsive.

The Employer's evaluation of a bid will take into account, in addition to the bid prices indicated in the Schedule of Prices, the following costs and factors that will be added to each Bidder's bid price in the evaluation using pricing information available to the Employer, in the manner and to the extent and in the Employer's Requirements.

- 1) The additional price, if any, reflected in the price proposal. If the price stated is not realistic the bid is liable to be rejected,
- 2) Compliance with the time schedule called for in the Appendix to Price Proposal and evidenced as needed in a milestone schedule provided in the bid;
- 3) The projected operating costs during the initial period of operation of the facilities,
- 4) The functional guarantees of the facilities offered against the specified performance criteria of the plant and equipment; and
- 5) The extra cost of work, services, facilities etc. required to be provided by the Employer or third parties.
- 6) The Employer reserves the right to accept or reject any variation or deviation. Variations, deviations, and other factors which are in excess of the requirements of the bidding documents or otherwise result in the accrual of unsolicited benefits to the Employer shall not be taken into account in bid evaluation.
- 7) The estimated effect of the price adjustment provisions of the Conditions of Particular Application, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 8) If the bid of the successful bidder is substantially below the Employer's estimate for the contract, the Employer may require the bidder to produce detailed price analyses to demonstrate the internal consistency of those prices. After evaluation of the price analysis, the Employer may require that the amount of the performance security be increased at the expense of the successful bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful bidder under the Contract
- 9) If any dispute Or Contradiction, interpretation in tender document the decision of **Superintending Engineer, P.H. Circle, Palanpur** will be final & shall be binding to the agency.

3.1.36. Employer's right to accept any bid or to reject any or all bids

The employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the employer's action.

E. AWARD

The Employer will award the Contract to the bidder whose bid has been determined to be responsive to the bidding documents and who have offered the workable Evaluated Bid Price, provided that such bidder has been determined to be eligible & qualified.

3.1.37. Notification of award

Prior to expiration of the period of bid validity prescribed by the Employer, the employer will notify the successful bidder by fax, confirmed by registered letter, that its bid has been accepted. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") shall name the sum, which the Employer will pay the Contractor in consideration of the supply, execution and completion of the Works buy the Contractor as prescribed by the Contract (hereinafter and in the conditions of contract called "the Contract Price"). The notification of award will constitute the formation of the Contract.

Upon the furnishing by the successful bidder of a performance security (and domestic preference security where required), the Employer will promptly return the other bidders that their bid security.

3.1.38. Signing of contract

At the same time that the employer notifies the successful bidder about the acceptance of bid, the Employer will send the bidder the Form of Contract Agreement provided in the bidding documents, incorporating all agreements between the parties.

Within 15 days of receipt of the Form of Agreement, the successful bidder shall sign the Form and return it to the Employer.

3.1.39. Performance Security

Within 15 days of receipt of the notification of award from the Employer, the successful bidder shall furnish to the Employer a performance security in accordance with the General conditions of contract, Clause 1. The form of performance security provided in the bidding documents may be used or some other form acceptable to the Employer.

Failure of the successful bidder to comply with the requirements shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.

Security Deposit shall be released in accordance with the general conditions of contract (clause-1)

3.1.40. Declaration form: (form-H)

In conjunction to Sub Clause 'C' under "29. Evaluation to Technical bids" the bidder should submit undertaking as per Form-H on non-judicial stamp paper of Rs. 300/- duly attested by notary public

regarding document submitted, are true. GWSSB would have the right to forfeit the EMD and blacklist the bidder if any of the information given by the bidder is found faulty or incorrect or misleading.

3.1.41. Other Requirements

The applicant in the same name and style shall be a well-established Civil/Mechanical/Electrical (as per type of the tender) Engineering Contractor, shall have Registration in the required class for the work and should be in category as per operations and maintenance performance evaluation system.

GUJARAT WATERSUPPLY & SEWERAGE BOARD

GANDHINAGAR

(A WHOLLY OWNED GOVERNMENT OF GUJARAT UNDERTAKING)

VOLUME – I

QUALIFICATION CRITERIA & EVALUATION PROCEDURE

4. QUALIFICATION CRITERIA & EVALUATION PROCEDURE

4.1. General

All information requested for in the downloaded forms should be furnished against the respective columns in the forms in electronic formats. If information is nil, it should also be mentioned as nil or no such case. If any particular query is not applicable in case of the applicant, it should be stated as not applicable. However, the tender/ Bidders are cautioned that not giving complete information called for in the tender Documents in the form required or not giving it in clear terms or making any change in the prescribed forms may result in the Bidder being summarily disqualified.

- 1) The tender's/ Bidder's name shall appear on each page of the prescribed Proforma.
- 2) Reference, Information and certificates from the respective clients certifying suitability, technical know-how or capability of the Bidder shall be signed by that client, in full with his name underneath in block letter and designation in that organization.
- 3) No further information will be entertained after submission of Tender Document unless it is called for by the GWSSB.
- 4) Any effort by a Bidder/Bidder to influence the GWSSB in the process of examination. Clarification, evaluation of Tender and in decision concerning qualification, may result in disqualifying the Bidder.
- 5) The successful per-qualification made in the case of any Bidder for any other work of GWSSB will not be considered valid for the present work.

4.2. Minimum qualifying criteria

To qualify, each bidder in the same name and style should have achieved the following performances:

4.2.1. General eligibility criteria

- 1) The bidder should be a company registered under Companies Registration act 1956/2013 or Limited Liability Partnership Act, 2008, or a Proprietorship registered in India as on bid submission date.
- 2) The bidder must have a valid registration as **"A" Class & above** as Civil or Electrical Contractor in R & B / Water Resources Department, Government of Gujarat
- 3) Electrical contractor's license issued by Electric Licensing Board, Gandhinagar
- 4) Bidder should not be under the effect of blacklisting/debarment by any Ministry of Government of India or by any State Government of any other State in India or by Government of Gujarat or any of the Government PSUs at the time of bidding.

4.2.2. Financial Capacity & Experience

The bidder must satisfy any one of the following two scenarios to be eligible to bid for the services in the tender.

Scenario-1: A bidder, under this scenario shall satisfy below financial capacity and experience criteria

- a) **Turnover:** Bidder must have achieved minimum annual financial turnover (at current price level) from contract receipt of works (in all classes of civil engineering construction works or O&M services only) of **Rs. 4 Crores** in any three financial years out of last Five (5) financial years i.e., from **2021-22 to 2025-26**.

And

- b) **Experience:** The bidder shall have successfully completed operation and maintenance for minimum 1 years for any water supply system or part of its civil or electromechanical components such as water supply network, WTP, pumping machineries, intake/ offtake structure, storage structures, municipal STP or municipal sewage network etc. in last Five (5) financial years i.e., from **2021-22 to 2025-26**.

Scenario-2

- a) **Turnover:** Bidder must have achieved minimum annual financial turnover (at current price level) from contract receipt of works (in all classes of civil engineering construction works or O&M services only) of **Rs. 10 Crores** in any three financial years out of last Five (5) financial years i.e., from **2021-22 to 2025-26**.

- b) **Note to Turnover requirement:**

The details pertaining to turnover for the year **2021-22 to 2025-26**, shall be certified by Chartered Accountant on his own letter head and duly attested. Turnover of financial year **2025-26** shall be considered subject to submission of provisional/audited certificate from chartered accountant by the Bidder. Turnover of previous year shall be given additional weightage of ten percent per year to bring them to current price level to account for price escalation as illustrated below:

Year	Financial Year	Turnover	Turnover at current price level
-5	2021-2022	F	1.61 x F
-4	2022-2023	E	1.46 x E
-3	2023-2024	D	1.33 x D
-2	2024-2025	C	1.21 x C
-1	2025-2026	B	1.10 x B
Base Year of inviting tender	2026-2027	A	1.00 x A

Note:

- 1) Financial year means period beginning from the 1st April to 31st March of the next year.
- 2) The details pertaining to Turnover for the year **2021-2022 to 2025-2026** shall be certified by Chartered Accountant on his own letter head and duly attested. Turnover for financial 2026-2027 shall be considered subject to submission of audited certificate from chartered accountant by the Bidder.
- 3) The cost of material supplied by the Government/ Client shall not be taken into account for experience against Turnover & Similar nature of work.

Note to Experience requirement:

- 1) The O & M works for which bidder have not entered in to contract agreement will not be considered.
- 2) The above experience shall be within last Five (5) financial years i.e., from **2021-22 to 2025-26** and upto one month prior to last date of submission of the bid for which Form -3A/11 must be submitted.
- 3) Experience as sub-contractor shall not be considered.
- 4) The experience of O & M works executed in Government (State/Central), Board, Corporation, and Government Undertaking /Organisations of state & central government shall only be considered for evaluation. The experience certificate from the client equivalent to not below the rank of Executive Engineer shall be considered. The experience of sublet works shall not be considered. ***In case of Nagarpalika, the experience certificate of duly Sign by Chief officer shall only be considered.***

5. BID FORMS**TO BE FILLED UP BY THE BIDDER**

The qualification questionnaire contains the following forms:

FORM NO.	DESCRIPTION OF PROFORMA
Form – 1	Letter for submission of tender
Form – 2	Form-H (Declaration)
Form – 3	Bank Guarantee (EMD)
Form – 4	Performance bond/ Performance guarantee Proforma for bid security
Form – 5	Details of organization structure of the bidder
Form – 6	Litigation History / Debarment / Blacklisting
Form – 7	Financial data
Form – 8	Details of experience of completed work (similar nature)
Form – 9	Details of works on hand with Bidder
Form - 10	Information for tenders submitted but not awarded

Note:

1. If necessary, additional sheets may be added to the forms. Each page of each form should be clearly marked in the right top corner as follows: Form-1, page 1; Form 2, page 2, etc.
2. Some of the forms will require attachments. Such attachments should be clearly marked as follows: Attachment 1 to Form 1, Attachment 2 to Form 2, etc.
3. All submittals shall be numbered chronologically, and reference of page nos shall be mentioned. The same is to be uploaded online and submitted in physical form as well

FORM -1
LETTER FOR SUBMISSION OF TENDER

To

(Board's concern officer's designation)

(Office address of Board's concern officer)

Sub: SUBMISSION OF TENDER APPLICATION FOR Comprehensive Operation & Maintenance of Civil & Electromechanical assets such as intake wells structures, HR on NMC Canal, elevated service reservoirs (E.S.R), HGLR, sump, water treatment plant (Satun 60.00 mld & Zazam 6.00 mld), chemical house, staff quarters, pump house, all bulk transmission and distribution pipelines, valves, all Head works, TW, Canal pumping machinery & electrical equipment etc. for the Radhanpur-Santalpur RWSS water supply scheme/s, including supply of potable water to all the 126 villages/11 habitations/1 towns for 60 months period. Taluka: Radhanpur, Santalpur, District: Patan based on NMC at Rankpur HW. Including supply of chlorine gas & PAC 10% Liquid. (Excluding the cost of Electricity Bill, Raw Water Charges, All type of Pipes, Sluice Valves, Air Valves).

Sir,

- 1) Having examined the details given in the invitation to Bidder for qualification and brief note, the condition of contract and Specification..... for the execution of Operation & Maintenance work, we the undersigned, offer to execute and complete such works and remedy any defects therein in conformity with the conditions of contract, Specifications, and quoted amount in accordance with the said conditions.
- 2) We hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statements are true and correct.
- 3) We have furnished all information and details necessary for qualification and have no further pertinent information to supply.
- 4) We hereby apply for qualification for (Name of work).
- 5) We undertake, if our Tender is accepted, to commence the Operation & Maintenance work immediately after the receipt of the Engineer's notice to commence.
- 6) We agree to abide by this Tender for the period of 180 days from the last date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- 7) We enclose here with fixed Deposit receipt / Deposit at call receipt / cross demand draft / Bank Guarantee amounting to Rs. Towards Earnest Money Deposit which is to be absolutely forfeited by Board should we not Deposit the amount of Security Deposit specified in the Clause 1, General Conditions of Contract, Volume-IB
- 8) We enclose..... DD in Favor of Field officer's designation & office name (as applicable) amounting to Rs. towards tender fees.
- 9) Unless and until a formal Agreement is prepared and executed this Tender, together with your written acceptance thereof, shall constitute a binding contract between us.

- 10) We submit the following certificates in support of our suitability, technical know-how and capability for having successfully completed the following works

Sr. No.	Works	Client / owner
---------	-------	----------------

- 11) We hereby confirm that there are no deviations to the terms & conditions of the contract and we are liable for execution of this contract in accordance with the stipulated conditions of the contract.

- 12) We understand that you are not bound to accept the lowest or any tender you may Receive. Dated this _____ day of _____ (Year) Signature _____ in the capacity of _____ Duly authorized to sign tender for and on behalf of _____

- 13) We are enclosing herewith "Form H"

- 14) Irrespective of whatsoever has been stated to the contrary anywhere else in our offer no technical deviations have been taken and the entire work shall be performed as per your specifications and Tender documents.

Signature of Applicant.

(NAME IN BLOCK CAPITALS)

Address _____

Seal of Applicant

Date of submission

Witness _____

Address _____

Occupation _____

Enclosures:

FORM -2
PROFORMA FOR LETTER OF UNDERTAKING (FORM-H)

***(TO BE EXECUTED ON NON-JUDICIAL E-STAMP PAPER OF Rs. 300/- AND SUBMITTED BY THE TENDERER
ALONG WITH HIS TENDER IN A SEPARATE COVER)***

To,

Gujarat Water Supply and Sewerage Board,
Jal Bhawan, Sector-10A,
Infront of Air Force Office,
Gandhinagar, Gujarat

Dear Sir,

- i. I/We hereby declare that I/We have visited the site and fully acquainted myself / ourselves with local situations pertaining to the work before submitting this tender.
- ii. I/We hereby declare that I/We have read the Tender Documents published on website www.gwssb.nprocure.com and accordingly submitted online price Bid for the work of -----

- iii. I/We hereby declare that I/We have carefully studied the conditions of contract and specifications and other documents of this work and agree to execute the same accordingly.
- iv. I/We hereby declare that my/our near relatives are not working in this division or in its sub-divisions as an Engineer of any category, Divisional Accountant, Storekeeper, and in the Circle Office as a Superintending Engineer as on today.
- v. I/we hereby declare that I/we are not declared ineligibility for corrupt or fraudulent practices issued by the central/state govt. or not in the list of blacklisted contractors announced by GWSSB/ GWIL / Govt of Gujarat or its Public Sector Undertakings, Government of India, Other states Government or Public Sector Units.
- vi. I/ We hereby submit our tender and undertake to keep our tender valid for a period of 180 days from the date of opening of tenders i.e. up-to ----- . I/We shall not vary/ alter or revoke my/ our tender during the validity period of tender. This undertaking is in consideration of **Gujarat Water Supply and Sewerage Board, Gandhinagar** agreeing to open my/ our tender, consider and evaluate the same for the purpose of award in terms of provisions of tender documents. Should this tender be accepted, I/ We also agree to abide by fulfill and comply with all the terms and conditions and provisions of the above mentioned tender documents.

- vii. I/We also declare that the bid duly filled in online and digitally signed and the required Earnest Money Deposit, Tender Fee and other required documents (scanned copy submitted online) will be handed over in physical form to the**by RPAD/Speed Post/ Hand Delivery only.**

If this declaration is found to be incorrect then without prejudice to any other action that may be taken I/we shall be debarred from bidding in GWSSB/GWIL tender for three years and my/our security deposit may be forfeited by GWSSB in full & the tender, if any, to the extent accepted, may be cancelled.

Signature along with seal of the Company

(Duly authorised to sign the tender on
behalf of the Bidder)

Name:

Designation:

Name of Company (BLOCK LETTERS)

WITNESS:

Signature:

Date:

Date:

Postal Address:

Name & Address:

Telephone/Fax No.

FORM -3
FORM OF BANK GUARANTEE

(Earnest Money Deposit)

Whereas M/s (herein after called the Bidder) is desirous and prepared to tender for work in accordance with Terms & Conditions of Tender Notice of (financial year) dated and whereas We, Bank of[Name of Country] having our registered office at (hereinafter called "the Bank"); agree to give the Tenderer a guarantee for the Earnest Money Deposit.

- 1) Therefore, we hereby affirm that we are Guarantors on behalf of the Bidder upto a total of Rupees(i.e. Rs.....) and we undertake to pay the Executive Engineer, upon his first written demand and without demur, without delay and without necessity of previous notice of individual or administrative procedure and without necessity to prove the bank the defects or short-comings or debit of the contractor any sum within the limit of Rupees.....
- 2) We further agree that the guarantee here in contained shall remain in full force and effective during the period that would be taken for the acceptance of the tender. However, unless a demand or claim under this guarantee is made only in writing on or before the We shall be discharged from all liabilities under the guarantee thereafter.
- 3) We undertake not to revoke the guarantee during its currency except with the previous consent of the Executive Engineer, in writing.
- 4) We lastly undertake not to remove the guarantee for any change in constitution of the Tenderer or the Bank.

Signature and Seal of the
Guarantor Bank:

Address:

Date:

FORM -4
PERFORMANCE BANK GUARANTEE

(The date of this bond must not be prior to the date of the instrument in connection with which it is given) _____

Principal (Contractor) _____

Surety (Scheduled or Nationalized Bank) _____

Sum of bond (express in words and figures) _____

Contract No. and date of contract _____

KNOW ALL MEN BY THESE PRESENTS THAT WE, THE PRINCIPALS AND SURETY above named are held and firmly bound unto the _____ hereinafter called the Employer in the amount stated for payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents subject to the provisions of which the aforesaid Contractor on demand and without demand on a claim being made by the Employer.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the principals have entered in to a contract with the Employer numbered and 'dates as shown above and hereto attached for the execution of work _____.

NOW THEREFORE, if the Principal shall well and truly perform and fulfil all the undertakings, covenants, terms, conditions and agreements of said contract during the original terms of the said Contract and any extensions thereof that may be granted by the Employer with or without notice to the surety and during the life or any guarantee required under the contract and shall also well and truly perform and fulfil all the Undertakings, covenants, terms, conditions and agreements of any all duty and unduly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the surety being hereby waived or shall pay over, make good and reimburse to the Employer all loss and damages which the employer may sustain by reason of failure or default on the part of said Principal so to do.

We _____ further agree that the guarantee herein Contained shall remain in full force and effect during the period that would be taken for the validity of the said Contract, and that it shall continue to be enforceable till all the dues of the employer under or by virtue of the Contract have been fully paid and its claims satisfied or discharged or till the Employer certifies that the terms and conditions of the Contract have been fully and properly carried out by the said Contractor and accordingly discharges the guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all liability under this guarantee thereafter.

IN WITNESS WHERE OF, the above bounded parties have executed this instrument under their several seals on the date indicated above the name and corporate seal, of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

In the presence of witness _____

individual

Principal

1. _____ as to _____ (seal)

2. _____ as to _____ (seal)

3. _____ as to _____ (seal)

4. _____ as to _____ (seal)

By _____ affix Corporate Seal

Attested

Corporate Surety

Business address

Affix by _____ Corporate Seal

Title _____

For and on behalf of the Employer

FORM -5
DETAILS OF ORGANIZATION OF THE BIDDER

1.	Name of Bidder	
2.	Nationality of Bidder	
3.	Office address Telegraphic Address Telephone Number Fax Number E-mail address.	
4.	Year of Establishment	
5.	Location of Establishment	
6	Bid is submitted as a) An individual/ proprietary firm b) A partnership firm c) A limited Company or Corporation	
7.	Attach the Organization chart showing the structure of the organization including the names of the Directors and Position of officers	
8.	Number of years of experience a) as a prime contractor (Contractor shouldering main responsibility) i) in own country ii) other countries (Specify countries)	
9.	For how many years has your organization been in business of Operation & Maintenance of works of similar nature under its present name? What were your fields when your organization was established?	
	Whether any new fields have been added in your organization? and if so, when?	
10	Whether you were required to suspend Operation & Maintenance work for a period of more than six months continuously after the work was started? If so, give the name of project and reasons thereof.	
11	Have you ever left the work awarded to you incomplete? (If so, give name of project and reasons for not completing work)	
12	In how many of your project's penalties were imposed for delays? (Please give details)	
13	Give details of testing laboratory, if any.	

FORM -6
LITIGATION HISTORY/ DEBARMENT/ BLACKLISTING

Name of Applicant:

1. PLEASE DESCRIBE:

Company's history of litigation or arbitration / Debarment / Blacklisting from contract executed in the last ten years or currently under execution. Please indicate for each case the year, name of employer, cause, matter in dispute, disputed amount, and whether the award was for or against the company.

2. Please add any further information that you consider to be relevant to the evaluation of your application. If you wish to attach other documents, please list below:

SIGNATURE OF BIDDER

FORM -7**FINANCIAL DATA**

All individual firms are requested to complete the information in this form. The information supplied should be the annual turnover of the Applicant, in terms of the amounts billed to clients for each year for work in progress or completed.

Applicants should not enclose testimonials, certificates, and publicity material with their applications; they will not be taken into account in the evaluation of qualifications.

1)	Name of Firm		
2)	Name of Partner / Director		
3)	Capital (a) Authorized (b) Issued and paid up		
Sr. No.	Year	Turnover (Rs in Crores)	Reference page No. to balance sheet or other documents
4)	Furnish Balance sheet and profit and loss statement with Auditor's Reports and Income Tax assessment orders for last Five (5) financial years. It should, interlaid include the following information Turnover for the last Five (5) financial year, the contract receipts of work in all classes of civil engineering construction works. (Furnish reference page number to balance sheet attached)		
(I)	2021-2022		
(II)	2022-2023		
(III)	2023-2024		
(IV)	2024-2025		
(V)	2025-2026		
GROSS INCOME IN THE LAST Five (5) FINANCIAL YEAR			
Sr. No.	Year	Gross Income (Rs in Crores)	Reference page No. to balance sheet or other documents
(I)	2021-2022		
(II)	2022-2023		
(III)	2023-2024		
(IV)	2024-2025		
(V)	2025-2026		
5.	What is the maximum cost of the project that has been handled? (Please give details)		

6.	List your sources of finance	
7.	Have you ever been denied tendering facilities by any Government / Government Undertaking Organisations / Public sector undertaking etc.? (If yes, please give details)	
8.	Amount of financial soundness certified by Bank. (Attach copy of certificate)	
9.	Name and address of Bank from whom reference can be obtained	
10.	Have you ever been declared bankrupt? (If yes, please give details)	

Note: Firms owned by individuals, and partnerships, may submit their balance sheets certified by a registered accountant, and supported by copies of tax returns. Attach Certificate(s) issued by any Bank or Financial Institution for available credit to the firm.

SIGNATURE OF BIDDER

FORM -8
DETAILS OF EXPERIENCE OF COMPLETED WORKS

List of O & M works of similar nature already completed by the bidder during last 5 financial years i.e. From 2021-22 to 2025-26& up to one month prior to last date of submission of the bid

Sr. No.	Name of the Project	Place/ Dist./ State	Cost of O & M work (Rs in Lac)	Date starting of	Date of completion	Remarks

Give details in the following Proforma. (Separate form for each work)

1)	Name of the Project	
2)	Agreement No. & Date	
3)	Country and location	
4)	Client's Name and Address	
5)	Cost of O & M work (Rs. in Lac)	
7)	Brief description of O & M work (scope showing intake structure details, WTP/STP, villages and/or towns covered, pipeline network (rising, gravity) etc)	
8)	Period of completion	
9)	Name of applicant's Engineer - in -charge of the work and his educational qualification	
10)	Were there any Penalties/ Fines / Stop notice / Compensation / Liquidated Damage imposed? (Yes or No.If yes, give case wise details)	
11)	Attach Client's certificate (Not below the rank of Executive Engineer or equivalent)	

SIGNATURE OF BIDDER

(*) If the information is hidden or misleading by the bidder, he shall be disqualified for the Tender and debarred for three financial years.

FORM -9**BIDDER'S WORK IN HAND****DETAILS OF WORKS ON HAND WITH BIDDER**

Work performance and Value of the existing commitments (Work on Hand) as on the date of bid submission for works (complete or partial) to be completed in the next two **years (Project Duration in Years)** (In separate form for each work)

1)	Name of the Project	
2)	Agreement No. & Date	
3)	Country and location	
4)	Client's Name and Address	
5)	Cost of O & M work (Rs. in Lac)	
7)	Brief description of O & M work (scope showing intake structure details, WTP/STP, villages and/or towns covered, pipeline network (rising, gravity) etc)	
8)	Period of completion	
9)	Name of applicant's Engineer - in -charge of the work and his educational qualification	
10)	Were there any Penalties/ Fines / Stop notice / Compensation / Liquidated Damage imposed? (Yes or No.If yes, give case wise details)	
11)	Attach Client's certificate (Not below the rank of Executive Engineer or equivalent)	

SIGNATURE OF BIDDER

Note: Necessary certificates showing the year wise breakup of amount of work done from the officer concerned shall be attached with the tender.

FORM -10
INFORMATION FOR TENDERS SUBMITTED BUT NOT AWARDED

Not required. Omitted

Section II: Scope of Services

6. SCOPE OF WORK

INTRODUCTION

About GWSSB

GWSSB is a statutory body set up by the State Government for Development, Regulation and Control of the Drinking water sector in the State. The jurisdiction of the GWSSB (Board) extends to the whole state. The Board largely works for putting in place rural water supply system as well as operational management of Rural Regional water supply schemes covering cluster of villages. In this area the main function of the Board is to prepare, execute, promote and finance the schemes for supply of water for drinking purposes. The rural water supply systems include installation of hand pumps, mini water supply system, etc. in small hamlets and piped water supply system for individual villages including large water supply system covering several villages.

About this bid

Gujarat Water Supply and Sewerage Board intends to carry out the operations and maintenance of its facilities through contractor selected in this bidding process. The selected contractor (hereafter called as “contractor”) shall perform the operations to fulfil the deliverables as set out in the terms and conditions laid out in this bid. He shall also be responsible for the maintenance of all the assets under the scope of this bid. At the end of the contract period, he shall handover the assets in good working condition so that the system’s reliability is sustained and cost of maintaining the water system does not increase.

Operations and maintenance of the water supply scheme involve two steps;

Operations:

The contractor shall carry out the operation of water supply system i.e. timely and daily operation of the components of a water supply system such as headwork’s, treatment plant, machinery and equipment, transmission mains, service reservoirs and distribution system etc. efficiently and economically to attain the objective of supplying safe and potable water equitably to the consumers.

Maintenance:

The contractor shall maintain the water supply system by keeping the structures, plants, machinery and equipment and other facilities in an optimum working order and proper functioning without any interruption. Maintenance shall include both Preventive Maintenance and Corrective Maintenance. He shall undertake preventive maintenance which shall constitute routine works and precautions to be taken periodically and ensure that the different components of the water supply system perform correctly over their service life (their expected lifetime). This in turn shall avoid the occurrence of a major fault or breakdown in the water supply system that calls for corrective maintenance that is many times more expensive.

Contractor shall undertake corrective maintenance which shall involve carrying out works related to break down, which has actually occurred by replacements, correction of defects etc.

SCOPE OF CONTRACTOR

The board intends to hire contractor for comprehensive O&M through e-tendering system for a duration of 60 (sixty) months for the **Radhanpur&SantalpurRWSSschemecovering 1 City/126 villages/ 11 Hamlets and 6Nos Village Tube WellsSpread across Taluka: Radhanpur and SantalpurDistrict: Patan based on NMC at RankpurHW.**

About the schemes in this package:

Sr. No.	Group Name	Commissioning Year	Cost	Total commissioned habitations (village, towns and hemlets)	Technical issue villages as on date	Voluntary villages as on date
1	Radhanpur	April-2023		64 Villages + 1 city+2 Hamlet	0 Villages	0 Villages
2	Santalpur	Sep-2022		62 Villages + 9 Hamlet	0 Villages	0 Villages

Note: Total commissioned habitations- technical issue habitations - voluntary habitations= operational habitations

Habitation means all villages, towns, and census hamlets directly connected with the RWSS. In cases where the RWSS delivers water directly to the census hamlets, such hamlets shall be treated as habitation for monitoring and evaluation of SLAs.

List of habitations and their operational status is provided in Annexure I. Various civil structures, machineries and other electrical components have been constructed under the said regional water supply schemes as per Annexure I & IX.

Briefscope of work:

Under this contract, it is expected that the contractor will supply safe and potable water on daily basis to all habitationsconnected to the water supply scheme:

Sl. No.	Category	Description	No. of habitations as on date
1	Operational	Habitationswhere water supply is operational currently	126 Villages +1 city+11Hamlet
2	Technical issue	Water iss currently not being supplied to the village/ ULB/ hamlet due to technical reasons	0 Villages
2a		<i>Carry out activities detailed in Part C of Schedule B of Volume II Price Bid to restore water supply</i>	0
2b		<i>Where contractor may take up restoration work to successfully operationalize such habitations. The contractor will be eligible to receive incentive as per the provisions of this contract</i>	0
3	Voluntary forgoing	Some habitationsuse their local sources during wet period. During summers or shortfall period, they seek water from RWSS. Supply of water when demanded by the GP as well as every 15 days to maintain the systems.	0 Villages

The contractor shall maintain all assets in as-is (as handed over) conditionduring the contract period so that the scheme/s remains functional throughout its design life. The contractor also has to ensure smooth handing over to new contractor/GWSSB during transition phase/ after contract completion.

Detailed scope of work

The scope of work for the O&M will include the following;

- 1) The works shall include **Comprehensive Operation & Maintenance of Civil & Electromechanical assets** such as intake wells structures, HR on NMC Canal , elevated service reservoirs (E.S.R), HGLR, sump, water treatment plant (Satun 60.00 mld&Zazam 6.00 mld), chemical house, staff quarters, pump house, all bulk transmission and distribution pipelines, valves,all Head works, TW,Canal pumping machinery & electrical equipment etc. for the Radhanpur-Santalpur RWSS water supply scheme/s, including supply of potable water to all the 126 villages/11 habitations/1 towns for 60 months period. Taluka: Radhanapur, Santlapur, District: Patan based on NMC at Rankpur HW. Including supply of chlorine gas& PAC 10% Liquid. (Excluding the cost of Electricity Bill, Raw Water Charges, All type of Pipes, Sluice Valves, Air Valves)
- 2) Operation and Maintenance of the water supply schemes involve the following scope of work;
 - a. **Operation** to ensure prescribed quantity of water supply to the beneficiaries. The scope of operations involves;
 - i. Regular avg. supply 52.00MLD of treated water to **126 villages and 1 city & 11 Hamlets** spread across **Radhanapu, Santlapur**, talukas of **Patan** district on a **daily basis only** as per **Annexure I. (Population Sheet 05 Year Projection to Attached)**
 - ii. Quality compliance, testing and reporting on daily basis for the frequency and parameters as per **Annexure II**. Agency shall ensure safe and potable water supply up to the delivery point with adequate residual chlorine even at tail end village sumps/delivery point.
 - iii. Provide trained, competent manpower for efficient operation of the water supply scheme in accordance with **Annexure III**. All the manpower should attend the site in uniform and carry identification cards.
 - iv. Conduct planning and review meetings on daily, weekly, monthly and quarterly basis and document as per the guidelines in **Annexure IV**.
 - v. Daily, monthly or periodic reporting in the ERP/reporting system of the employer/authority/GWSSB as specified by authorities in charge or engineer and as per formats in **Annexure V**.
 - vi. Water supply infrastructure is critical from safety & security point of view. Therefore, the authority desires to have a biometric attendance system at all its HW locations. Wherever it is installed, the contractor must ensure recording of attendance by its deployed personnel so that the authority is aware of the identity of individuals working at asset locations.
 - vii. Redressal of grievances attributable and assigned to the O&M contractor within stipulated time as per **Annexure VI**.
 - viii. Conduct training sessions for its staff as per **Annexure XVI**.
 - ix. Procure and maintain adequate stock of consumables at all times. Usage of consumables shall be based on desired output quality parameters. Raise chemical consumables demand in writing to the authority 3-months prior to requirement.
 - x. The contractor during the contract period shall ensure that the power factor does not fall below 0.90.

b. Preventive & Curative maintenance of the assets to ensure efficient operations

The bidder shall be responsible for maintenance of equipment and assets under this RFP;

i. Preventive Maintenance:

- The bidder will carry out such maintenance activities as per schedule given in **Annexure VII**. The bidder shall carry out all monitored/non-monitored or paid/unpaid maintenance activities periodically as per the schedule and submit completion reports as per formats in **annexure**.
- The activities for which separate payments will be made by the authority includes; painting, cleaning of reservoirs/ tanks/sumps on actual basis. Unpaid activities shall include but not limited to <routine maintenance, housekeeping, oiling of machineries> etc. It shall be bidder's responsibility to account the costs for such unpaid preventive maintenance activities in the price quote.
- The bidder will carry out minor repairs and replacements within one month of scheme handover for components which were found to require such works during joint inspection and handover survey. The bidder shall ensure that the assets are restored to optimum working condition by such minor repairs and replacements.

ii. Curative Maintenance:

Curative maintenance activities are the activities for troubleshooting and are to be carried out as and when fault, breakdown, breakage etc. are reported. It is bidder's responsibility to attend and resolve such issues within the time frame stipulated in **Annexure VI**. In case of failure to comply with these timelines, the authority shall impose penalties as per the said annexure. Troubleshooting procedures may be referred from Annexure XV or CPHEEO O&M Manual.

C. General Maintenance and activities

The bidder has to carry out the following activities during the contract tenure;

- i. trimming of grass, trees and bushes at least once in a month. This shall also include landscaping and gardening for beautification of the premise. All machinery, tools, labours shall be brought by contractor and no extra payment for such activity/machinery/tools/labour work shall be given.
- ii. Sweeping of the premises on daily basis for the built-up area mentioned in **Annexure IX**. Sweeping shall be carried out twice a day (at beginning of the day and evening).
- iii. Record keeping of all the important data on daily basis as prescribed in **Annexure VIII** viz;
 - a. Filter plant operation records
 - b. Pumping station operation records
 - c. Chemical stock and dosing
 - d. Stores
 - e. Grievances / Work Order Register
 - f. Visitor Register

- g. Preventive and curative maintenance activities (in the formats and printed booklets approved by GWSSB & printed by agency)
 - h. Water supplied to villages/cities/ hamlets
 - i. Leakage Repairing Register
- 3) Electricity Bill should be submitted to GWSSB office for payment as soon as received from concerned Electricity authority. If charges for delay in payment, levied on account of late submission of bills to GWSSB office by the contractor, then the same will have to be borne by contractor.
- 4) Maintain IT hardware necessary for reporting in software and printing reports at main headworks. The data operator deployed for the scheme shall have computer/ laptop with internet connection to facilitate reporting. This computer and internet modem/data card will be owned by the contractor.
- 5) Authority's equipment and assets other than water supply assets: Contractor shall preserve all equipment such as biometric attendance device, CCTV etc and if lost or damaged, it should be replaced and repaired by the contractor.
- 6) The contractor shall immediately notify the authority of any illegal connections found in the distribution system. The contractor shall take needful action for removal of such illegal connections.
- 7) The contractor will be responsible for all statutory & regulatory requirements related to handling of hazardous chemicals, health, safety & environment (HSE) compliances and due care shall be taken to abide the law. Any implication due to non-compliance or violation shall be borne by the contractor.
- 8) O&M of pumping machinery must be scheduled as per CE (M & P), GWSSB circular No-Circular/ PM/125/Dt. 12/05/2022 and **Annexure VII**.
- 9) All deployed staff shall be in uniform issued by the contractor as per the specifications provided in **Annexure XIII**. The uniform must have 'O&M Agency's name' and its logo so that during interaction with officials and beneficiaries they can be identified as personnel associated with water supply system.
- 10) Provide utility vehicle for pipeline inspection and repair activities by agency. Quantity as per **Annexure III**. This utility vehicle shall be a 4-seater pickup truck (utility vehicle) (mandatory). The provided vehicle shall not be used for any purpose other than inspection/ repair of pipeline infrastructure. The vehicle must feature a "On Duty for Water Supply System" & a logo of GWSSB (blue colour), complying to the logo usage guidelines. The agency shall arrange sufficient two-wheeler and four-wheel utility vehicle to ensure proper inspection/repair activities. The number mentioned in this document is minimum and the agency must arrange additional vehicles as required.
- 11) All manpower working on GWSSB's asset locations shall at all times, carry valid ID cards issued by the contractor. The contractor must have a fool-proof mechanism for issuance of ID cards which will ensure that no fraud happens. Agency will be responsible in case of any fraudulent activity. Format provided on **Annexure XIV**.

SCOPE OF EMPLOYER

- 1) Handing over of water supply infrastructure as specified in this contract document for operation and maintenance by the contractor.
- 2) Carry out Inspection & asset survey 2 months prior to contract end date as defined in Exit Management.
- 3) Employer shall conduct and facilitate a joint inspection for “Handing over and taking over” with both relieving agencies and new agency.
- 4) Carry out an inspection on completion of one month from handover date to ensure minor repairs and replacement has been completed by the new agency
- 5) Deciding target quantity of water and target villages/ town/ hamlets.
- 6) Transfer of grievance to the contractor through grievance management system/software.
- 7) Payment of Electricity bills for operations.
- 8) Take up major repair or replacement in the assets, which have been damaged due to floods, earthquake, cyclone or any natural calamities.
- 9) Payment of raw water charges to Water Resources Department/ SSNNL/ GWIL.
- 10) Supply chemical consumables such as Chlorine, PAC and bleaching powder as per Schedule B of VOL-II. Agency Shall Raise demand for the requirement of such consumables at least three (3) months prior.

EXIT MANAGEMENT

- 1) The authority will conduct inventory and asset survey at least 2 months prior to the end date of contract. Authority expects O&M as per the contract conditions such that all assets remain in good condition to deliver the intended objective throughout its design life. However, during the asset survey specified above, if it is found that any asset (electromechanical or civil) has not been maintained properly and degradation is due to poor maintenance & upkeep beyond expected due to ageing, then it will be contractor's responsibility to restore the asset in healthy and usable condition for efficient operation. Defects found attributable to lack of maintenance & upkeep, shall have to be mandatorily rectified before handing over of assets upon completion of contract otherwise penalties shall be levied as per decision of authority higher than Executive Engineer.
- 2) The contractor will have to carry out repairs and replacements as per the remarks of Deputy Executive Engineer in the DEE's asset survey report attributed to the contractor for corrective actions.
- 3) The handing over and taking over will be done in presence of a) Both contractors' representatives (relieving & taking over agency) and b) Deputy Executive Engineer or Executive Engineer. The report shall be countersigned by Executive Engineer.

7. ANNEXURES**ANNEXURE-I SCHEME DETAILS & BENEFICIARY LIST****Scheme Salient Features & Operational Data**

Sl. No.	Particulars	Description				
1	Scheme Name	Radhanpur – Santalpur RWSS (Radhanpur – Santalpur Section)				
2	Commissioning Year	2022-2023 (Augmentation)				
3	Actual cost of scheme	13,618.10 Lakh				
4	Augmentation history (year and cost)	Year		Cost		
				Radhanpur	Santalpur	
		2022-23		7104.80 Lakh	6513.30 Lakh	
5	Existing Components with capacity	Refer the sub points below (a to f)				
a	Water source	Narmada Main Canal				
b	Filter Plants (nos., location, capacity)	AS Per attached Sheet no-1				
c	Pumping Machinery	As per attached Sheet No-2				
d	Storage sumps/ tanks	As Per attached Sheet No-3				
e	Pipe network (length, make, class and dia)	From	To	Make, Class & Dia	Length (m)	
		As Per attached Sheet No-4				
f	Distribution ESRs/ sumps	As Per attached Sheet No-5				
6	Total Beneficiary Demand (as per 2024)	Category	Nos of Villages/ towns/ hamlets	Population	Demand (MLD)	Supply (MLD)
		Village	126	296490	29.65	40.24
		Towns	1	59317	8.30	9.80
		Hamlets	11	8122	0.93	0.93
		Industries	16	N/A	0.75	0.75
		Institutional	35	N/A	0.32	0.32
7	Operational Hours	Location	Summer (Hours)	Winter/Monsoon (Hours)	Minimum (Hours)	
		As Per attached Sheet No-9				

Headwork/ Sub headwork**Headwork/ Sub headwork Supply Demand**

Name of Headworks/Sub headworks	Water requirement (as per 2026) (MLD)	Average Water Supply (MLD)
P.H. Sani.Sub Division Radhanpur		
Satun HW	9.74	12.47
Dharavadi HW	3.64	4.73
SINAD HW	1.31	1.70
SHERGANJ HW	2.36	3.07
BHILOT HW	1.3	1.69
DAISAR HW	1.83	2.38
GOTARAKA HW	1.34	1.74
MOTI PIPALI HW	1.86	2.42
Total	23.38	30.20
P.H. Sani.Sub Division Santalpur		
Varahi HW	4.13	6.28
Abiyana HW	2.20	3.34
Sidhada HW	2.33	3.54
Zazam HW	1.23	1.87
Santalpur HW	1.18	1.79
Garamdi HW	1.52	2.31
Kalyanpura HW	0.78	1.19
Dhokawada HW	1.05	1.60
Total	14.42	21.92
Grand Total =	37.80	52.12

List of habitations

▪ Supply to Villages, ULBs& Hamlets

Sr No	Villages/ ULBs	Taluka	Populati on 2026 (year of tenderin g)	Target LPCD	Target Supply (in MLD)	Average Water Supply of past 12 months (MLD)	Village Categor y Initial (I), Interme diate (IN), Tail End (T)	Status of Water Supply (O) Operational, (T)Technic al issue, (V) Voluntary not taking)	In case of technical, is the habitation W/s restoration work included in Part C of Schedule B? (Y/N)
P.H. Sani.Sub Division Radhanpur									
1	Satun	Radhanpur	3149	100	0.31	0.400	I	O	N
2	Kamalpur (S)	Radhanpur	5610	100	0.56	0.722	T	O	N
3	Shergadh	Radhanpur	1491	100	0.15	0.194	IN	O	N
4	Shabdulpura	Radhanpur	2527	100	0.25	0.323	IN	O	N
5	Najupura	Radhanpur	1696	100	0.17	0.219	T	O	N
6	Vadnagar	Radhanpur	2223	100	0.22	0.284	IN	O	N
7	Vijaynagar	Radhanpur	1536	100	0.15	0.194	IN	O	N
8	Alhabad	Radhanpur	1963	100	0.2	0.258	IN	O	N
9	Dharavadi	Radhanpur	3942	100	0.39	0.503	I	O	N
10	Jetalpura	Radhanpur	1726	100	0.17	0.219	I	O	N
11	Nanapura	Radhanpur	2751	100	0.28	0.361	I	O	N
12	Badarpura	Radhanpur	1537	100	0.15	0.194	IN	O	N
13	Bhadiya	Radhanpur	1364	100	0.14	0.181	IN	O	N
14	Arjansar	Radhanpur	3963	100	0.4	0.516	IN	O	N
15	Subapura	Radhanpur	2267	100	0.23	0.297	IN	O	N
16	Kamalpur (Dharavadi)	Radhanpur	2592	100	0.26	0.335	IN	O	N
17	Sultanpura	Radhanpur	3116	100	0.31	0.400	IN	O	N
18	Maghapura	Radhanpur	2570	100	0.26	0.335	IN	O	N
19	Shahpur	Radhanpur	689	100	0.07	0.090	T	O	N
20	Dev	Radhanpur	2754	100	0.28	0.361	T	O	N
H1	New Porana	Radhanpur	1251	100	0.13	0.168	T	O	N
21	Sinad	Radhanpur	4215	100	0.42	0.542	I	O	N
22	Amirpura	Radhanpur	2755	100	0.28	0.361	I	O	N
23	Masali	Radhanpur	3117	100	0.31	0.400	I	O	N
24	Sardarpura	Radhanpur	2964	100	0.3	0.387	I	O	N
25	Surka	Radhanpur	1251	100	0.13	0.168	IN	O	N
26	Sherganj	Radhanpur	1956	100	0.2	0.258	I	O	N

27	Premanagar	Radhanpur	2575	100	0.26	0.335	I	O	N
28	Porana	Radhanpur	1673	100	0.17	0.219	IN	O	N
29	Memdavad	Radhanpur	5887	100	0.59	0.761	IN	O	N
30	Kolhapur	Radhanpur	2357	100	0.24	0.310	IN	O	N
31	Bandhavad	Radhanpur	5171	100	0.52	0.671	T	O	N
32	Javantri	Radhanpur	2482	100	0.25	0.323	IN	O	N
33	Bhilot	Radhanpur	4115	100	0.41	0.529	I	O	N
34	Nayatvada	Radhanpur	2327	100	0.23	0.297	I	O	N
35	Limbadka	Radhanpur	670	100	0.07	0.090	I	O	N
36	Santhali	Radhanpur	2275	100	0.23	0.297	IN	O	N
37	Rangpura	Radhanpur	878	100	0.09	0.116	IN	O	N
38	Zandala	Santalpur	2675	100	0.27	0.348	T	O	N
39	Lodra	Santalpur	3249	100	0.32	0.413	I	O	N
40	Boruda	Santalpur	1883	100	0.19	0.245	IN	O	N
41	Charanda	Santalpur	1569	100	0.16	0.206	T	O	N
42	Dhrandva	Radhanpur	1045	100	0.1	0.129	T	O	N
43	Daisar	Santalpur	1636	100	0.16	0.206	I	O	N
44	Ganjisar	Santalpur	2811	100	0.28	0.361	I	O	N
45	Chalwada	Radhanpur	2624	100	0.26	0.335	T	O	N
46	Panvi	Radhanpur	647	100	0.06	0.077	IN	O	N
47	Lotiya	Radhanpur	2245	100	0.22	0.284	IN	O	N
48	Thikariya	Radhanpur	792	100	0.08	0.103	T	O	N
49	Gotarka	Radhanpur	3790	100	0.38	0.490	I	O	N
50	Dahegam	Radhanpur	2940	100	0.29	0.374	I	O	N
51	Dholakada	Radhanpur	1277	100	0.13	0.168	I	O	N
52	Chhaniyathar	Radhanpur	1898	100	0.19	0.245	I	O	N
53	Gulabpura	Radhanpur	1023	100	0.1	0.129	I	O	N
54	Hamirpura	Santalpur	1641	100	0.16	0.206	I	O	N
H2	Hirapura (Dehgam)	Radhanpur	938	100	0.09	0.116	T	O	N
55	Kalyanpura	Radhanpur	1503	100	0.15	0.194	I	O	N
56	Moti Pipali	Radhanpur	3169	100	0.32	0.413	I	O	N
57	Sarkarpura	Radhanpur	1613	100	0.16	0.206	I	O	N
58	Nani-Pipali	Radhanpur	2217	100	0.22	0.284	I	O	N
59	Kolivada	Santalpur	3516	100	0.35	0.452	I	O	N
60	Zanjansar	Santalpur	1302	100	0.13	0.168	IN	O	N
61	Zekada	Santalpur	2691	100	0.27	0.348	T	O	N
62	Undergadha	Santalpur	838	100	0.08	0.103	IN	O	N
63	Vandhiya	Santalpur	349	100	0.03	0.039	T	O	N
64	Delana	Radhanpur	1519	100	0.15	0.194	IN	O	N
65	Radhanpur City	Radhanpur	59317	140	8.3	10.707	I	O	N
		Total	331436		23.38	30.16			
P.H. Sani.Sub Division Varahi									
1	Varahi	Santalpur	12285	100	1.23	1.870	I	O	N
2	Sadpura	Santalpur	2270	100	0.23	0.350	IN	O	N

3	Joravargadh	Santalpur	940	100	0.09	0.137	IN	O	N
4	Navagam	Santalpur	2002	100	0.2	0.304	IN	O	N
5	Kamalpur	Santalpur	1323	100	0.13	0.198	IN	O	N
6	Lakhapura	Santalpur	614	100	0.06	0.091	IN	O	N
7	Naliya	Santalpur	451	100	0.05	0.076	IN	O	N
8	Vaghpura	Santalpur	1148	100	0.11	0.167	T	O	N
9	Gokhantar	Santalpur	2860	100	0.29	0.441	IN	O	N
10	Jarusa	Santalpur	2087	100	0.21	0.319	IN	O	N
11	Sherpura	Santalpur	1030	100	0.1	0.152	IN	O	N
12	Manpura	Santalpur	1359	100	0.14	0.213	IN	O	N
13	Dabhi	Santalpur	1627	100	0.16	0.243	IN	O	N
14	Unrot	Santalpur	1381	100	0.14	0.213	IN	O	N
15	Korda	Santalpur	4999	100	0.5	0.760	IN	O	N
16	Fulpura	Santalpur	1077	100	0.11	0.167	IN	O	N
17	Gadha	Santalpur	2072	100	0.21	0.319	IN	O	N
18	Rampura (Korda)	Santalpur	779	100	0.08	0.122	T	O	N
19	Abiyana	Santalpur	3151	100	0.32	0.486	I	O	N
20	Limgamda	Santalpur	1699	100	0.17	0.258	IN	O	N
21	Joravarganj	Radhanpur	1014	100	0.1	0.152	IN	O	N
22	Agichana	Radhanpur	2062	100	0.21	0.319	IN	O	N
23	Karsangadh	Radhanpur	692	100	0.07	0.106	IN	O	N
24	Pedeshapura	Radhanpur	1923	100	0.19	0.289	IN	O	N
25	Bismilahganj	Radhanpur	606	100	0.06	0.091	IN	O	N
26	Gadsai	Radhanpur	3378	100	0.34	0.517	T	O	N
27	Vadalithar (Gadasai)	Radhanpur	594	100	0.06	0.091	T	O	N
28	HaripuraGamadi (Karsangadh)	Radhanpur	188	100	0.02	0.030	T	O	N
29	Pati (Amarapur)	Sami	4713	100	0.47	0.714	T	O	N
30	Undi	Santalpur	852	100	0.09	0.137	IN	O	N
31	Lunichana	Santalpur	1153	100	0.12	0.182	IN	O	N
32	Anternesh	Santalpur	2775	100	0.28	0.426	T	O	N
33	Daigamda	Santalpur	2165	100	0.22	0.334	IN	O	N
34	Chanasra	Santalpur	2071	100	0.21	0.319	T	O	N
35	Parsund	Santalpur	1688	100	0.17	0.258	IN	O	N
36	Patanka	Santalpur	1239	100	0.12	0.182	IN	O	N
37	Daldi	Santalpur	1713	100	0.17	0.258	IN	O	N
38	Sidhada	Santalpur	3715	100	0.37	0.562	I	O	N
39	Babra	Santalpur	2086	100	0.21	0.319	IN	O	N
40	Bavarda	Santalpur	1378	100	0.14	0.213	IN	O	N
41	Narayan Nagar	Santalpur	113	100	0.01	0.015	IN	O	N
42	Bamroli	Santalpur	3396	100	0.34	0.517	IN	O	N
43	Karashangadh	Santalpur	188	100	0.02	0.030	IN	O	N
44	Ranisar(Antarne sh)	Santalpur	375	100	0.04	0.061	T	O	N

45	Madhupura (Antarnesh)	Santalpur	250	100	0.03	0.046	T	O	N
46	Sulatanapura (Antarnesh)	Santalpur	188	100	0.02	0.030	T	O	N
47	Zazam	Santalpur	4235	100	0.42	0.638	IN	O	N
48	Jamwada	Santalpur	1666	100	0.17	0.258	IN	O	N
49	Varnosari	Santalpur	1662	100	0.17	0.258	IN	O	N
50	Vavdi	Santalpur	610	100	0.06	0.091	IN	O	N
51	Kilana	Santalpur	2840	100	0.28	0.426	T	O	N
52	Fangali	Santalpur	1301	100	0.13	0.198	T	O	N
53	Santalpur	Santalpur	7511	100	0.75	1.140	I	O	N
54	Rajusara	Santalpur	1514	100	0.15	0.228	IN	O	N
55	Par	Santalpur	2575	100	0.26	0.395	IN	O	N
56	Chhor(santalpur)	Santalpur	188	100	0.02	0.030	IN	O	N
57	Ranmalpura	Santalpur	1361	100	0.14	0.213	IN	O	N
58	Bakutra	Santalpur	2535	100	0.25	0.380	IN	O	N
59	Datrana	Santalpur	2822	100	0.28	0.426	T	O	N
60	Kalyanpura	Santalpur	1122	100	0.11	0.167	I	O	N
61	Vauva	Santalpur	4054	100	0.41	0.623	IN	O	N
62	Rozu	Santalpur	1105	100	0.11	0.167	IN	O	N
63	Garamadi	Santalpur	2085	100	0.21	0.319	I	O	N
64	Piprala	Santalpur	2849	100	0.28	0.426	T	O	N
65	Madhutra	Santalpur	5096	100	0.51	0.775	IN	O	N
66	Dhokavada	Santalpur	3248	100	0.32	0.486	I	O	N
67	Eval	Santalpur	618	100	0.06	0.091	T	O	N
68	Barara	Santalpur	1644	100	0.16	0.243	IN	O	N
69	Jakhotra	Santalpur	2992	100	0.3	0.456	IN	O	N
70	Aluvas	Santalpur	415	100	0.04	0.061	IN	O	N
71	Charanka	Santalpur	1542	100	0.15	0.228	T	O	N
Total			143259		14.35	21.812			
TOTAL					37.73	51.98			

▪ **Supply to industries**

Sr No	Industry Name& location	Sanctioned water quantity KL/Month	Average Water Supply of past 12 months (MLD)	Peak Water drawn (MLD)	Status of Water Supply
					((O) Operational, (T)Technical Error, (V)Voluntary not taking)
	P.H. Sani.Sub Division Radhanpur				
1	A.P.M.C	0.08	0.12		(O) Operational
2	AINAJ INDUSTRIES	0.08	0.12		(O) Operational
3	AMAR JYOT EDUCATION TRUST	0.08	0.12		(O) Operational
4	AMBA INDUSTRIES, SINAD	0.075	0.11		(O) Operational
5	ASHAPURA INDUSTRIES-RADHANPUR	0.08	0.12		(O) Operational

6	BHANSHALI TRUST	0.08	0.12		(O) Operational
7	BHAVESH INDUSTRIES	0.09	0.14		(O) Operational
8					
9	HARI OM SEVA TRUST	0.08	0.12		(O) Operational
10	HOTEL INDRAPRASHT	0.08	0.12		(O) Operational
11	HOTEL RAJASTHAN-KALYANPURA	0.075	0.11		(O) Operational
12	JAYVIR INDUSTRIES -SINAD	0.06	0.09		(O) Operational
13	Manav Seva Ashram -Radhanpur	0.08	0.12		(O) Operational
14	MILK CHLILING CENTER	0.08	0.12		(O) Operational
15	Sarvoday Arogya Nidhi	0.08	0.12		(O) Operational
16	Shree Kuldevi Industries	0.08	0.12		(O) Operational

▪ **Supply to institution**

Sr No	Industry Name& location	Sanctioned water quantity KL/Month	Average Water Supply of past 12 months (MLD)	Peak Water drawn (MLD)	Status of Water Supply
					((O) Operational, (T)Technical Error, (V)Voluntary not taking)
	P.H. Sani.Sub Division Radhanpur				
1	BAXIPANCH ASHRAM SALA-PANAVI	0.08	0.12		(O) Operational
2	BHADRA SADHANA PRATISHTHAN	0.08	0.12		(O) Operational
3	CBI OFFICE	0.08	0.12		(O) Operational
4	DEE GETCO SINAD	0.45	0.68		(O) Operational
5	EDUCATION & MEDICAL SOCIETY OF THE DAUGHTERS OF THE CROSS	0.075	0.11		(O) Operational
6	GETCO 66 KV DAHISAR	0.12	0.18		(O) Operational
7	GETCO 66 KV S.STATION -RADHANPUR	0.08	0.12		(O) Operational
8	GETCO 66 KV- VARAHI	0.08	0.12		(O) Operational
9	HIGH POWER TV STATION	0.06	0.09		(O) Operational
10	I T I	0.08	0.12		(O) Operational
11	NALANDA VIDHYALAY	0.08	0.12		(O) Operational
12	NARMADA REST HOUSE OLD	0.06	0.09		(O) Operational
13	NEW NARMADA VASAHAAT	0.075	0.11		(O) Operational
14	PRAJAPATI CHATRALAY	0.08	0.12		(O) Operational
15	PWD COLONY	0.08	0.12		(O) Operational
16	R & B REST HOUSE RADHANPUR	0.075	0.11		(O) Operational
17	REFRRAL HOSPITAL	0.6	0.9		(O) Operational
18	RENJ FOREST OFFICE-RADHANPUR	0.06	0.09		(O) Operational
19	S.E.(W)WESTERN RAILWAY	1.44	2.16		(O) Operational
20	VINAY VIDHYALAY	0.08	0.12		(O) Operational
21	Western Railway Radhanpur colony	0.08	0.12		(O) Operational
22	Western Railway Radhanpur New Conne.	0.08	0.12		(O) Operational

P.H. Sani.Sub Division Varahi					
1	HPCL SANTALPUR	197.466	2.37		(O) Operational
2	HPCL ZEKDA	17.836	0.21		(O) Operational
3	SANTALPUR POLICE STATION, SANTALPUR	310	3.72		(O) Operational
4	VARAHI POLICE STATION, VARAHI	93	1.12		(O) Operational
5	RAILWAY STATION, SANTALPUR	310	3.72		(O) Operational
6	MAMLATDAR OFFICE VARAHI	62	0.74		(O) Operational
7	R & B REST HOUSE VARAHI	62	0.74		(O) Operational
8	R & B REST HOUSE SANTALPUR	62	0.74		(O) Operational
9	FOREST OFFICE, SANTALPUR	93	1.12		(O) Operational
10	COMMUNITY HEALTH CENTER SANTALPUR	217	2.60		(O) Operational
11	66 KV STATION SANTALPUR	217	2.60		(O) Operational
12	HOTEL KAMAL HIGHWAY ROAD KALYANPURA	155	1.86		(O) Operational
13	HOTEL NAVJIVAN NR TOLL PLAZA HIGHWAY VARAHI	155	1.86		(O) Operational

ANNEXURE-II QUALITY TESTING & FREQUENCY

Quality standards:

Parameter	Unit	Permissible
Turbidity	NTU	≤1
pH		6.5 to 8.5
Total Dissolved Solids (TDS)	mg/L	≤500
Residual (Free) Chlorine	mg/L	≥2.00 at H/W ≥0.20 at service point (but not more than 1.00)
Coli form Organisms	MPN	<2.00

Testing frequency and location of sampling:

Sl. No.	Parameter	Location for sampling	Frequency
1	Raw water turbidity	At inlet/ aerator	Per Shift
2	Raw water pH	At inlet/ aerator	Per Shift
Output parameters (to be monitored)			
3	Treated water turbidity	Clear water Sump	Per Shift
4	Treated water pH	Clear water Sump	Per Shift
5	Residual chlorine	At Inlet/sump of next headworks by agency &at village level sumps, and other delivery points by GP/ VWSC in presence of agency	Per Shift
6	Total Dissolved Solids (TDS)	Outlet of filter plant	Per shift
7	Coli form organisms	Outlet of filter plant	Per shift

- Additionally Chemical & Biological test 1 Sample/month of each HW, WTP & Source, Sample shall be tasted at GJTI, GWSSB Lab and report shall be submitted for the same regularly.

Historical raw water quality data

Parameter	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
Turbidity (NTU)	1.83	1.775	1.02	1.00	1.10	0.985	0.91	1.01	0.947	1.00	0.88	0.945
pH	7.77	7.82	7.80	7.95	7.80	7.74	7.57	7.77	7.79	7.86	7.79	7.79

ANNEXURE-III SCHEDULE FOR ESTABLISHMENT

The contractor shall employ the competent staff for O&M of the Water Supply Scheme as under with qualification and experience stated below, Contractor may deploy additional staff over and above those prescribed as per his requirement in order to run the system efficiently.

S. N.	Designation	Minimum Education	Role and office	Minimum Experience	Radhanpur Gr.	Santalpur Gr.
1	O&M Manager	- MBA or PGDM in Business Management and - Bachelor's degree in Civil/ Mechanical/ Electrical/ Environmental/ Public Health engineering	Role: O&M coordinator / District coordinator Location: Agency's office within 10 km radius from GWSSB's division	Minimum 7 years of experience	1	
2	Maintenance Engineer (Supervisor)	- Bachelor's degree in Civil/ Mechanical/ Electrical/ Environmental/ Public Health engineering	Role: O&M Overseer (supervisor) Location: At Main Headwork	Minimum 5 years of experience	1	
3	Asst. Maintenance Engineer	- Bachelor's degree in Civil/ Mechanical/ Electrical/ Environmental/ Public Health engineering	Role: Assistance to Engineer Location: Agency's office within 10 km radius from each of GWSSB's sub division	Minimum 1 years of experience	1	1
4	Operators	ITI (mech/ electrical/ instrumentation/ water supply operator) or Diploma (Mechanical/ Electrical/ Instrumentation) or B. Sc. Environmental Science	Role: For operating Filter plant/ pumping machinery/ chlorination plant Location: Respective plant/ pumping station	Minimum 1 year of experience	21	20
5	Electrician	ITI certificate in Electrical/ Wireman trade	Role: Maintenance and troubleshooting of electrical components Location: Pumping station	Minimum 3 years of experience	1	1
6	Lab in charge/ Chemist	B.Sc. Chemistry or Environmental Science / Diploma in environmental engineering	Role: Carry out quality sampling and analysis Location: Laboratory at headwork	Minimum 1 year of experience	1	0
7	Pipe Fitter / Valve man	ITI (Fitter / Plumber)	Role: Inspection and repair of network Location: Section offices/ sub headworks	6 months of experience in maintenance and	14	17

				repairing work of pipeline network		
8	Data Entry Operator with internet & PC/Laptop	Any Graduate.	Role: Data entry in the MIS/ ERP software Location: With the Maintenance Engineer	Understanding of MS office and MIS reporting is must	1	
9	Helpers for fitter/ operator/ laboratory		Role: Assistance to fitter, electrician, operators, water quality sampling etc. Location: With respective group		3	2
10	Sweeper		Role: Maintain cleanliness and housekeeping Location: at different premises		8	8
11	Utility Vehicle				1	1

Utility Vehicle: 2 (Two) nos. to be maintained for inspection and repair of pipe network by the agency.

Note:

a) Any personnel deployed in the scheme must be on contractor's payroll and should be above 18 years of age and below 60 years of age with reference to the date of submission of the tender.

b) Agency must arrange and maintain adequate two-wheel and four-wheel utility vehicles for line inspection, repairs, and distribution of water. The provision of Two-wheel vehicle is to ensure that work is not hindered when all utility vehicles are engaged or the location is inaccessible by four-wheel vehicle.

c) All office staff, engineer & manager shall be available on call 24x7 i.e. all days. They shall be present at appropriate/ defined location for at least 8 hours per day for 6 days a week except Sunday.

d) Field staff, operators, helpers etc. shall be present on site 24x7 on shift-based rotation system.

e) The item includes Vehicle Utility vehicle/ Four Wheel (4-seater pickup/ 5-seater car) with fuel and driver in good running condition (Model Above 2024) with Petrol/Diesel, Lubricants, Repairing & Driver to carry out general repairs and sending message or purchasing urgent O & M materials etc. as per direction of Engineer in charge.

The Vehicle to be provided shall be Registered (Model Above 2024) in RTO department, Insurance and drivers must have a valid permanent License.

The Vehicle Should be provided 24 hrs. Stand by in good running condition (Model Above 2024) with Petrol/Diesel, Lubricants, repairing & driver etc. Complete as per Instruction of EIC.

Vehicle Logbook Maintain & submitted in each bill.

Contractor's if not Provide Vehicle the Recovery shall be made Rs. 2000 per Day per Vehicle.

ANNEXURE-IV GUIDELINES AND STRUCTURE FOR SITE MEETINGS

1. **Daily Planning Meeting (DPM):** This shall be conducted on daily basis on each asset location prior to start of day's work. These meetings shall include discussion on operational and maintenance parameters including target for the day, activities for the day, inventories, safety, critical issues faced by field staff.

Attendees	<ul style="list-style-type: none"> ▶ O&M Manager cum Maintenance Engineer ▶ Operator's skilled and unskilled staff
Conducted by	Operator's Manager cum Maintenance Engineer
Time & Venue	Daily morning prior to starts at all asset locations
Topic/ Agenda	<ul style="list-style-type: none"> ▶ Target supply quantity, quality ▶ Target supply hours ▶ Potential issues in achieving the targets ▶ Routine maintenance activities ▶ Fast moving spares- Inventory levels ▶ Leaks repaired and machinery requirement ▶ Safety while working with chlorine, while working on heights, fire safety etc. ▶ Major maintenance and overhaul activities (such as replacement of spares)
Documentary record	Attendance sheet & discussion points

2. **Weekly Planning Meeting (WPM):** This shall be conducted on weekly basis on each asset location at the start of the working week. These meetings shall include discussion on operational and maintenance parameters including target for the week, activities for the week, inventories, safety, critical issues faced by field staff.

Attendees	<ul style="list-style-type: none"> ▶ GWSSB AAE & JE ▶ O&M Manager cum Maintenance Engineer ▶ Operator's skilled and unskilled staff
Conducted by	GWSSB AE/ AAE/ JE
Time & Venue	Monday morning
Topic/ Agenda	<ul style="list-style-type: none"> ▶ Target supply quantity, quality ▶ Target supply hours ▶ Potential issues in achieving the targets ▶ Routine maintenance activities ▶ Fast moving spares- Inventory levels ▶ Safety while working with chlorine, while working on heights, fire safety etc. ▶ Major maintenance and overhaul activities (such as replacement of spares)
Documentary record	<ul style="list-style-type: none"> ▶ Attendance sheet & discussion points ▶ Observation sheet: assets not working properly to be recorded by AAE/ JE

3. **Monthly Review Meeting (MRM):** This shall be conducted on a monthly basis preferably on the last day of the month or the first day of the following month.

Attendees	<ul style="list-style-type: none"> ▶ GWSSB Deputy Executive Engineer ▶ GWSSB AAE & JE ▶ O&M Manager cum Maintenance Engineer
Conducted by	GWSSB DEE
Time & Venue	11:00 AM on 1 st Wednesday of each month
Topic/ Agenda	▶ Detailed review of operational performance for the month

	<ul style="list-style-type: none"> ▶ Critical issues faced, downtime, cause analysis ▶ Review of overall inventory and preparedness for the following month
Documentary record	<ul style="list-style-type: none"> ▶ Attendance sheet & discussion points ▶ Monthly inspection report to be prepared and submitted by DEE

4. **Quarterly Review Meeting (QRM):** This meeting will be chaired by the Executive Engineer. It shall be held every quarter to review the performance of the agency and schemes

Attendees	<ul style="list-style-type: none"> ▶ GWSSB EE ▶ GWSSB Deputy Executive Engineer, AAE & JE ▶ GWSSB AAE & JE ▶ O&M Manager cum Maintenance Engineer
Conducted by	GWSSB EE
Time & Venue	Last Tuesday of Jan, Apr, Jul and Oct of the year
Topic/ Agenda	<ul style="list-style-type: none"> ▶ Detailed review of operational performance ▶ Critical issues faced, downtime, cause analysis ▶ Demand & supply dynamics ▶ Asset condition
Documentary record	<ul style="list-style-type: none"> ▶ Attendance sheet & discussion points

ANNEXURE-V REPORTING FORMATS**Daily Reporting Format (MIS Portal/ ERP Operations O& M Module)**

Coverage and quantity			
Supplied village & cities	_____	Out of total	_____ villages & cities
Supplied quantity	_____MLD	Out of total	_____MLD

Pumping							
Location: H/W 1							
Sr No.	Type	Design Supply Hours	Capacity (HP)	Condition	Hours supplied	Reason in case of failure (if any)	Breakdown since
1	Working			O Working O Breakdown			
2	Working			O Working O Breakdown			
3	Standby			O Working O Breakdown			
Location: H/W 2							
Sr No.	Type	Design Supply Hours	Capacity (HP)	Condition	Hours supplied	Reason in case of failure (if any)	Breakdown since
1	Working			O Working O Breakdown			
2	Working			O Working O Breakdown			
3	Standby			O Working O Breakdown			
Grievance Redressal (Scheme Related)							
Pending complaints carried forward from previous day	Total complaints received today	Total complaints redressed today	Total complaints yet to be redressed				

Water quality		
Raw water turbidity		NTU
Treated water turbidity		NTU
Treated water pH		
PAC/Alum dose		mg/L
Residual chlorine	Headwork 1	PPM
	Sub headwork 1	PPM

	Headwork 2	PPM	
	Sub headwork 2	PPM	
	Add new rows if required	PPM	
Reason for issue in water quality (if any)			
Other Issues			
Issue	Reported Date	Cause <text>	Resolution Remark
Water Leakage			
O&M System failure attended			
Repairs			
Add more rows as required			

Monthly Reporting Format (MIS Portal/ ERP Operations O & M Module)

Electricity consumed		Location (HW/SHW)		
Meter reading at start of the month				
Meter reading at end of the month				
Units consumed in the month				
Bill amount for the month (in INR)				
Power outage (if any)				
Sr No.	Date	Number of hours		
1				
2				
Add more rows as required				
Power factor		Location-1	Location-2	
Power Factor				
Grievance Redressal				
Pending complaints carried forward from previous month	Total complaints received in a month	Total complaints redressed in a month	Total complaints redressed within stipulated time limit	Total complaints yet to be redressed
Grievance Redressal Time				
Average of Monthly Grievance resolution time (Autofill by ERP)				
Preventive Maintenance activities (payable)				
Inside-Outside Painting			Yes/ No	Attach Photos
Cleaning of Storage reservoir and head works premises				Attach Photos
Replace Filter Media				Attach Photos
Add more rows as required				Attach Photos
Consumables				
Monthly usage of PAC/Alum	Kg			
Monthly usage of Chlorine	Kg			
Monthly usage of Bleaching Powder	Kg			

Annual Reporting Format (MIS Portal/ ERP Operations O & M Module)

Sr. No.	Particulars	Details																																															
1	Name of RWSS: Name of Agency: Address: Telephone No.: Email Id:																																																
2	Details of Customers:																																																
	Population being serviced																																																
	Nos. of Villages																																																
	Nos. of Towns																																																
	Nos. of Connections of category	Type	Metered	Unmetered	Total																																												
		Residential																																															
		Commercial																																															
		Industrial																																															
		Institutional																																															
		Others																																															
3	Details of Water Sources	List of water sources (Please indicate all water sources from which piped water supply is drawn) <table border="1"> <thead> <tr> <th rowspan="2">Source Piped/ Ground Water</th><th colspan="6">Drawn water quantity during last one year</th></tr> <tr> <th>Max. drawn in a day (KL or ML)</th><th>Min drawn in a day (KL or ML)</th><th>Total in a month (ML)</th><th>Avg. in a month in MLD</th><th>Total in year (ML)</th><th>Avg. in a year (MLD)</th></tr> </thead> <tbody> <tr> <td>Bulk/RWSS Pipeline</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>Ground Water</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>Local Surface sources</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>Total (For All sources)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>							Source Piped/ Ground Water	Drawn water quantity during last one year						Max. drawn in a day (KL or ML)	Min drawn in a day (KL or ML)	Total in a month (ML)	Avg. in a month in MLD	Total in year (ML)	Avg. in a year (MLD)	Bulk/RWSS Pipeline							Ground Water							Local Surface sources							Total (For All sources)						
Source Piped/ Ground Water	Drawn water quantity during last one year																																																
	Max. drawn in a day (KL or ML)	Min drawn in a day (KL or ML)	Total in a month (ML)	Avg. in a month in MLD	Total in year (ML)	Avg. in a year (MLD)																																											
Bulk/RWSS Pipeline																																																	
Ground Water																																																	
Local Surface sources																																																	
Total (For All sources)																																																	
4	Cost of Water	Cost of water as charged by another authority providing water source _____ For the year = Applicable Rate X Total water drawn in a year																																															
5	Distribution Charges recovered by the Authority in Rs. Lakhs*	Consumer Type	Annual Billing	Annual Receipt	Outstanding Dues																																												
		Domestic																																															
		Institutional																																															

		Commercial																																																							
		Industrial																																																							
		Total																																																							
*To be obtained from Division/ Sub division offices																																																									
6	<p>Service Level</p> <p>A. Per capita distribution in your authority area</p> <p>=<u>Total Water supplied in the year</u> in litres/ Population X 365</p> <p>B. Frequency of water supply at Household level</p> <p>Once/Twice in a day or once every _____ days.</p> <p>C. Period for which water supplied on the day of supply, measured at household level</p>	<table border="1"> <tr> <th>Zone</th><th>Per capita water supply per day (LPCD)</th><th>Frequency of Supply (Once/Twice in a day or once every _____ days.)</th><th>Duration of Supply (Minutes)</th></tr> <tr> <td>Zone 1</td><td></td><td></td><td>➤</td></tr> <tr> <td>Zone 2</td><td></td><td></td><td>➤</td></tr> <tr> <td>Zone 3</td><td></td><td></td><td>➤</td></tr> <tr> <td>-----</td><td></td><td></td><td>➤</td></tr> </table>	Zone	Per capita water supply per day (LPCD)	Frequency of Supply (Once/Twice in a day or once every _____ days.)	Duration of Supply (Minutes)	Zone 1			➤	Zone 2			➤	Zone 3			➤	-----			➤																																			
Zone	Per capita water supply per day (LPCD)	Frequency of Supply (Once/Twice in a day or once every _____ days.)	Duration of Supply (Minutes)																																																						
Zone 1			➤																																																						
Zone 2			➤																																																						
Zone 3			➤																																																						
-----			➤																																																						
7	Water Distribution Grievance Analysis (from 1916 helpline)	<p>Nos. of applications received during the year</p> <table border="1"> <tr> <th rowspan="2">Sr. No</th><th rowspan="2">Customer type</th><th rowspan="2">Total Complaints</th><th colspan="2">Disposed</th><th colspan="4">Pending since</th></tr> <tr> <th>Positive</th><th>Negative</th><th>Within 1 Week</th><th>1-2 Week</th><th>2-4 Week</th><th>Above 4 weeks</th></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>					Sr. No	Customer type	Total Complaints	Disposed		Pending since				Positive	Negative	Within 1 Week	1-2 Week	2-4 Week	Above 4 weeks																																				
Sr. No	Customer type	Total Complaints	Disposed		Pending since																																																				
			Positive	Negative	Within 1 Week	1-2 Week	2-4 Week	Above 4 weeks																																																	
8	Difference of Quantity of water pumped from sources and quantity of water billed (Annualized Distribution Loss of water)																																																								
9	Proposed course of action to prevent water loss, improve spatial distribution asymmetry, improve service level& address quality problem issues	<p>I. _____</p> <p>II. _____</p> <p>III. _____</p> <p>IV. _____</p>																																																							
10	Regulatory action taken under Gujarat Domestic Water Supply (Protection) Act or the law for concerned authority	<p>a) Unauthorized drawl (Please report nos. of cases)</p> <p>I. Excess drawl</p> <p>II. Unauthorized drawl</p> <p>III. Change of use for water connection</p> <p>b) Penalty/Assessment orders levied for unauthorized connection/drawl</p> <p>I. Nos. of case in which assessment/penalty order made</p> <p>II. Amount in assessment order made</p> <p>III. Amount collected</p> <p>IV. Amount yet to be collected</p> <table border="1"> <tr> <td colspan="4">Recovery pending from the consumer in reference to penalty imposed under the act</td> </tr> <tr> <td>Current Year</td><td>Previous Year</td><td>Years prior to last year</td><td>Total</td></tr> <tr> <td></td><td>➤</td><td></td><td></td></tr> </table>					Recovery pending from the consumer in reference to penalty imposed under the act				Current Year	Previous Year	Years prior to last year	Total		➤																																									
Recovery pending from the consumer in reference to penalty imposed under the act																																																									
Current Year	Previous Year	Years prior to last year	Total																																																						
	➤																																																								
11	Remarks																																																								

ANNEXURE-VIPAYMENT, RESOLUTION TIME & PENALTIES**PAYMENT & INCENTIVES**

- 1) The contractor or O&M agency shall raise monthly invoice to the authority within 5th to 10th date of any billing month. This will include amount payable according to Part A, B and C subject to execution of the items described in this tender document.
- 2) The invoices submitted will be subject to incentives and/or penalties which the authority has laid down through this contract.
- 3) Billing for Part B and Part C will be as per actuals, as measured and approved by the concerned officer.

Aspect	Activity	Type	Description
Billing for water supply and incentives	a) 100% operational habitations covered, & b) Voluntary habitations, which have demanded water supply, are covered (As per the baseline assessment signed by DEE and provided in this tender) c) Technical habitations which are operationalized and sustained during contract period	Regular Billing	100% payment of Part A, per month, if a) and b) has been satisfied. Any deductions, penalties will be as per the Operational Penalties mentioned in this annexure. No deduction for habitations not receiving water due to any technical issue (as identified through the baseline in this tender)
	Making a non-operational habitation (i.e. technical habitation as per baseline in Annexure-1) to an operational habitation by rectification of a technical issue in the infrastructure i. Only for those habitations which has technical issue as per the baseline established in Annexure-1 ii. If the agency restores water supply in a technical issue habitation, such habitation will be added in the baseline and form a new baseline. iii. No incentive for restoring water supply to a habitation which encountered technical issue during the contract period iv. No incentive if the technical issue has been resolved owing to the improvements/ execution of Part C of schedule B (Price Bid)	Incentive	No prorate payment or billing. A one-time incentive will be paid to the agency for each such operationalized habitations as below: <ul style="list-style-type: none"> • Resolved in 1st year: 50% of annual rate per habitation • Resolved in 2nd year: 40% of annual rate per habitation • Resolved in 3rd year: 30% of annual rate per habitation • Resolved in 4th year: 20% of annual rate per habitation • Resolved in first six months of 5th year: 10% annual rate per habitation • Resolved in the last six months of 5th year: No incentive A trial period of 3 months will be observed for such habitations. Incentive will be paid after completion of trial period.

For calculation of One-time incentive, Annual rate per habitations shall be calculated as:

Annual rate per habitation = $\frac{\text{of Part A (for the year)}}{\text{Total no. of villages, towns \& hamlets* (operational+ voluntary+ technical)}}$

*Hamlets is defined as Census Hamlets. Only include those census Hamlets where the hamlet is covered under Faliya Connectivity project and the RWSS delivers water directly to that hamlet.

DEDUCTIONS & PENALTIES

Every habitation should receive adequate and safe water on a daily basis as per the target quantity decided by GWSSB. In case of any fault, the shortfall shall be provided on the next day along with that day's regular supply quantity. i.e. The shortfall in quantity shall be compensated on the following day. For the purpose of establishing service level agreement, a 2-day block period is considered.

A. Operational

Aspect	Activity	Description
Water supply coverage	Less habitations served (from baseline: Operational) or less quantity water is served to the habitations against the target	Penalties will be as per the three cases (a, b and c) as shown below. For non-compliance, applicable case will be identified, and such penalty will be levied.
	a) Within the 2-day block period, less quantity of water supply to any habitation (One instance= 1 non-compliant block of 2-days)	Total quantity of water supplied to a habitation within the 2-day block period: i. 0% or up to 50% of 2-day requirement: No payment ii. >50% to ≤90%: Payment at 70% per day rate per habitation iii. If total supplied water is ≥ 90%: 100% payable to contractor
	b) No supply for three consecutive 2-day blocks i.e. 6 days	No payment and a penalty of 50% per day per habitation. (For understanding, total deduction will be 6 days' payment + 3 days' of payment as penalty)
	c) Non supply of water for 20 days or more continuous in a month. Such habitation will be considered as habitation with technical issue.	No payment for the billing month and a penalty of 100% of monthly rate per habitation Note: <ul style="list-style-type: none"> Three consecutive months of non-supply for 20 or more days/month will be a cause for termination.
	Special notes for a, b, and c.	<ul style="list-style-type: none"> If penalty c is applied for a month, then a or b will not apply during that month. If penalty b or c is applicable, then during the same period/ days, penalties under 'a' will not be applicable (concurrent period of 6 days or 20 days). Separate instances of a & b or any combinations thereof will be levied during a billing period (except for concurrent period) In case of technical issue habitations which are operationalized, penalties will be applicable after trial period i.e. after 3 months of resolution For exceptional circumstances such as damage to the assets due to flood or other natural calamities, power supply issue from DISCOM, or that beyond the control of O&M agency, the EE shall issue a certificate to the agency for waiver of penalties.
Absence of manpower	O&M Manager	Rs 5000/day
	Maintenance Engineer	Rs 2500/day
	Other operating staff	Rs 1500/day
Quality non compliance	Treated Water Turbidity, pH or chlorine at H/W and Sub H/W not compliant	Rs 5000 per failed sample. 10 or more failed sample in a month will be a cause for termination of the contract.
Reporting	Reporting in ERP or/ other MIS software such as quantity, quality, grievances, operational KPIs etc	Rs 5000/day Late reporting will be considered non-compliant. Daily reports have to be submitted before 12 PM on the following day.
Conduct of employees	Staff not in uniform compliant to the contract condition or staff doesn't have ID card issued by agency	₹ 100/day per person
Safety Non-compliance	If the contractor's personnel are found to be working without required personal protective equipment (PPE) while handling chlorine gas, working with electrical components or during	Rs 1000/- shall be deducted for every such instance. After three such deductions/ instances, issue a notice to the contractor. No improvement, i.e. the fourth instance will be a cause for termination.

Aspect	Activity	Description
	working at heights more than 1.5m or in violation of provisions of Annexure XII.	

For calculation of penalties, monthly rate per habitation shall be calculated as:

$$= \frac{\text{Total of Part A (for 12 months)}}{12 \text{ months} \times \text{Total no. of Operational villages, towns, hamlets}^*}$$

For calculation of penalties, daily rate per habitation shall be calculated as:

$$= \frac{\text{Total of Part A (for the year)}}{365 \text{ days} \times \text{Total no. of Operational villages, towns, hamlets}^*}$$

*Hamlets is defined as Census Hamlets. Only include those census Hamlets where hamlet is covered under Faliya Connectivity project and the RWSS delivers water directly to that hamlet.

B. Maintenance

Aspect	Activity	Description
Power Factor	For Power Factor below 0.9	Total deduction: Penalty levied by DISCOM+ INR 10,000 per incidence (as per electricity bill)
Preventive Maintenance (stipulated time is as per Annexure VII, master framework for preventive maintenance)	Daily maintenance activities not carried out as per daily checklist	Rs 2,000/day
	Monthly maintenance activities not carried out within stipulated time	Rs 50,000 in the billing month
	Quarterly maintenance activities not carried out within stipulated time	Rs 2,00,000 in the billing month
	Any of the Annual maintenance activities, Overhaul, Calibration & Servicing, Performance Testing, Payable Maintenance Activities (Part B) not carried out within stipulated time	Rs 10,00,000 in the billing month

C. Curative Maintenance & Repairs

Aspect	Activity	Description
Repair, Breakdown response	Carryout repairs within 24 hours to restore water supply. Penalty will be levied for delay after first 24 hours.	First day: ₹ 1,000/day Second day & onwards: ₹ 10,000/day (for all components incl WTP, pumping machinery, pipe network, intake structures, storage tanks, valves, transformer*, panels, starters, breakers, lifting devices, dosing devices etc.)
	For calculation of penalties: First day = From 24 hours to 48 hours	Note: If due to such breakdown, water supply is affected, then operational penalties will also be applicable. *Except where DISCOM is responsible for repair of transformer under major breakdown

D. Other penalties:

- Any implication, due to chemical leak hazard shall be borne by the agency
- The agency has to submit the documentary proof of GPF/ESI registration along with the bid documents. Further, as per the Employees Provident Fund and Miscellaneous Provisions Act, 1952, the contractor shall comply with all provisions of the said act if his/ her total establishment has 20 or more persons employed. Agency shall submit proof of PF contribution with every invoice. Entire bill payment will be put on hold if the same is not provided.

- The agency has to submit the license as per contract Labour Act within one month from the date of work order otherwise, a penalty of Rs.50,000/- per month will be imposed for two months, or otherwise contract will be terminated, and all the liabilities shall be borne by the contractor.
- **Billing:** Agencies (O&M contractor) shall submit monthly bill to GWSSB as agreed in the T&C on timely basis i.e. 5th to 10th date of the following month, beyond which penalties will be levied:

Invoice (Monthly bill) submission	Penalty
Late submission of monthly bill	5% of monthly billed amount for each month of delay. E.g. for two months' delay, 5%+5%= 10% penalty will be levied.
Note	Such penalties will be separately calculated for each delayed bill.

TERMINATION

Termination due to SLA non-compliance: In addition to the provisions of this tender document, and not in contrary to any clause of this contract, the agency may be terminated under the following circumstances;

- If applicable penalties for each month exceed 25% of billing amount per month, for a block of 4 consecutive months, then contract shall be liable for termination.
- Cumulative penalties levied against non-performance in any of the SLA (viz. operational, preventive or curative maintenance) exceeds 10% of the total contract value.
- Non-performance from the contractor w.r.t. repetitive non-adherence to safety requirements or quality requirements of water as mentioned in this annexure's Deductions & Penalties.

In such cases of violation, a termination notice shall be served to the O&M contractor by the competent officer of GWSSB. Termination as per Clause 18 will be applicable.

Signature of contractor

**Executive Engineer
Public Health Works Division,
Radhanpur**

ANNEXURE-VII PREVENTIVE MAINTENANCE SCHEDULE**Framework for carrying out maintenance activities**

Periodicity of activities	Time frame to complete	Recording mechanism
Daily preventive maintenance activities	Daily morning in the first hour as part of the start-up activities	Daily checklists pasted near the asset
Monthly preventive maintenance activities	1 st or 2 nd of every month	Monthly maintenance checklist
Quarterly preventive maintenance activities	8 th to 14 th of January, April, July and October of every year	Quarterly maintenance checklist
Half yearly preventive maintenance activities	Between 8 th to 14 th of January and July of every year	Half-yearly maintenance checklist
Yearly preventive maintenance activities	Between 15 th and 30 th of January of every year	Annual maintenance checklist
Calibration & servicing	Along with the yearly preventive maintenance activities	Calibration and servicing log
Overhaul activities	15 th to 30 th of January every year <i>Clariflocculator: every year</i> <i>Civil and plant: every 2 years</i> <i>Pumping machinery: every 1 year (submersible) or 2 years (VT, centrifugal)</i> <i>Transformer: every 5 years</i>	Overhaul checklist
Painting works	Between 1 st to 30 th of October of the year (after monsoon)	Record log

Schedule for Weather specific preparation

Periodicity of activities	Time frame to complete	Recording mechanism
Pre-Summer: Yearly performance testing	Testing from 15 th to 30 th of January of every year Systems should be ready for summer by 28 th February with all corrective actions	Performance testing log
Preparedness for Monsoon	15 th June to 30 th June of every year. Systems should be ready by 1 st July with all corrective actions	Record log

i. Daily Operations Checklists**Daily Checklist: Pumps & Motors (Asset ID)**

RWSS name : _____

Asset Make & Capacity : _____

Location (H/W) : _____

Section : _____

Manufacture Year : _____

Quantity & Head : _____

Date	Bearing temperature	Noise	Vibration	Temperature	Visible Leaks	Coupling bushed and rubber spider integrity (in MPR)	Check stuffing box, gland, etc	Lubrication	Signature of Pump Operator
1 / ____/20__	Ok/ Not Ok								
2 / ____/20__									
3 / ____/20__									
4 / ____/20__									
5 / ____/20__									
6 / ____/20__									
7 / ____/20__									
8 / ____/20__									
9 / ____/20__									
10 / ____/20__									
11 / ____/20__									
12 / ____/20__									
13 / ____/20__									
14 / ____/20__									
15 / ____/20__									
16 / ____/20__									
17 / ____/20__									
18 / ____/20__									
19 / ____/20__									
20 / ____/20__									
21 / ____/20__									
22 / ____/20__									
23 / ____/20__									
24 / ____/20__									
25 / ____/20__									
26 / ____/20__									
27 / ____/20__									
28 / ____/20__									
29 / ____/20__									
30 / ____/20__									
31 / ____/20__									

Daily Checklist: Panels, Circuit Breakers, Starters

RWSS name : _____

Asset Make & Capacity : _____

Location (H/W) : _____

Section : _____

Manufacture Year : _____

Quantity & Head : _____

Date	Phase indicator	Voltage, Current, Frequency	Energy meter readings	Temperature	Clean external surface	Any loose connections / insulation	Signature of Electrician/ Operator
1 / ____ /20__	Ok/ Not Ok						
2 / ____ /20__							
3 / ____ /20__							
4 / ____ /20__							
5 / ____ /20__							
6 / ____ /20__							
7 / ____ /20__							
8 / ____ /20__							
9 / ____ /20__							
10 / ____ /20__							
11 / ____ /20__							
12 / ____ /20__							
13 / ____ /20__							
14 / ____ /20__							
15 / ____ /20__							
16 / ____ /20__							
17 / ____ /20__							
18 / ____ /20__							
19 / ____ /20__							
20 / ____ /20__							
21 / ____ /20__							
22 / ____ /20__							
23 / ____ /20__							
24 / ____ /20__							
25 / ____ /20__							
26 / ____ /20__							
27 / ____ /20__							
28 / ____ /20__							
29 / ____ /20__							
30 / ____ /20__							
31 / ____ /20__							

Daily Checklist: Transformer & Substation

RWSS name : _____

Asset Make & Capacity : _____

Location (H/W) : _____

Section : _____

Manufacture Year : _____

Quantity & Head : _____

Date	Winding temperature	Oil temperature	Leaks in CT/PT unit	Silica gel colour (if pink not ok)	Oil level in tank	Any loose connections / insulation	Signature of Electrician/ operator
1 / ____/20__	Ok/ Not Ok						
2 / ____/20__							
3 / ____/20__							
4 / ____/20__							
5 / ____/20__							
6 / ____/20__							
7 / ____/20__							
8 / ____/20__							
9 / ____/20__							
10 / ____/20__							
11 / ____/20__							
12 / ____/20__							
13 / ____/20__							
14 / ____/20__							
15 / ____/20__							
16 / ____/20__							
17 / ____/20__							
18 / ____/20__							
19 / ____/20__							
20 / ____/20__							
21 / ____/20__							
22 / ____/20__							
23 / ____/20__							
24 / ____/20__							
25 / ____/20__							
26 / ____/20__							
27 / ____/20__							
28 / ____/20__							
29 / ____/20__							
30 / ____/20__							
31 / ____/20__							

Daily Checklist: Headworks (Filter Plant)

RWSS name : _____

Asset Make & Capacity : _____

Location (H/W) : _____

Section : _____

Manufacture Year : _____

Quantity & Head : _____

Date	Leakages in Raw water conveyance	Cleanliness in inlet channel	Sludge on surfaces (Clariflocculator)	Leaks in Cylinder/ toner in Chlorine room	Water loss in filter gallery	Functioning of key components	Signature of Operator
1 / ____ /20__	Ok/ Not Ok						
2 / ____ /20__							
3 / ____ /20__							
4 / ____ /20__							
5 / ____ /20__							
6 / ____ /20__							
7 / ____ /20__							
8 / ____ /20__							
9 / ____ /20__							
10 / ____ /20__							
11 / ____ /20__							
12 / ____ /20__							
13 / ____ /20__							
14 / ____ /20__							
15 / ____ /20__							
16 / ____ /20__							
17 / ____ /20__							
18 / ____ /20__							
19 / ____ /20__							
20 / ____ /20__							
21 / ____ /20__							
22 / ____ /20__							
23 / ____ /20__							
24 / ____ /20__							
25 / ____ /20__							
26 / ____ /20__							
27 / ____ /20__							
28 / ____ /20__							
29 / ____ /20__							
30 / ____ /20__							
31 / ____ /20__							

Daily Checklist: Valves & Gates

RWSS name : _____ Asset Make & Capacity : _____

Location (H/W) : _____ Section : _____

Manufacture Year : _____ Quantity & Head : _____

Date	Bolts & nuts	Packing (gland, gasket, etc)	Leaks	Condition of valve	Lubrication (for sluice, butterfly)	Vibration or noise	Signature of Operator
1 / ____ /20__	Ok/ Not Ok						
2 / ____ /20__							
3 / ____ /20__							
4 / ____ /20__							
5 / ____ /20__							
6 / ____ /20__							
7 / ____ /20__							
8 / ____ /20__							
9 / ____ /20__							
10 / ____ /20__							
11 / ____ /20__							
12 / ____ /20__							
13 / ____ /20__							
14 / ____ /20__							
15 / ____ /20__							
16 / ____ /20__							
17 / ____ /20__							
18 / ____ /20__							
19 / ____ /20__							
20 / ____ /20__							
21 / ____ /20__							
22 / ____ /20__							
23 / ____ /20__							
24 / ____ /20__							
25 / ____ /20__							
26 / ____ /20__							
27 / ____ /20__							
28 / ____ /20__							
29 / ____ /20__							
30 / ____ /20__							
31 / ____ /20__							

Calibration& Service Log for: _____ (name of equipment& Asset ID)

RWSS name : _____ Asset Make & Capacity : _____

Location (H/W) : _____ Section : _____

Manufacture Year : _____ Quantity & Head : _____

Calibration & Service Log

SI No.	Date of Calibration	Validity (next calibration date)	Calibration Agency Name	Signature of calibration agency's personnel	Signature of Maintenance Engineer

Agency shall hang/ paste/ stick this log near the equipment. Applicable for:

- ▶ Pressure gauges
- ▶ Flow measuring devices
- ▶ Chemical dosing devices such as chlorinators
- ▶ Laboratory equipment
- ▶ Quality analysers
- ▶ Voltmeter
- ▶ Ammeter
- ▶ Frequency meter
- ▶ Protection relay
- ▶ DG set
- ▶ Others where applicable

ii. Periodic Maintenance activities**PUMP & MOTOR SET****Monthly**

Activity	Check (Tick if complete)
Tighten the gland stuffing box and check gland packing	
Apply oil to the gland bolts	
Inspect mechanical seal for wear	
Tighten Foundation bolts	
Check condition of bearing	
Tighten electrical connections including earthing	

Quarterly

Activity	Check (Tick if complete)
Realignment of pump and drive (both shall be decoupled) (pump and motor shafts should be pushed to either side)	
Replenish clean oil or grease to lubricate bearings (Anti friction bearing should have one third to half of its housing as void space to avoid overheating)	
Replace oil or grease in the bearing housing	
Check condition of gland packing and replace	
Tighten cable gland, lugs and connecting bolts	
Tighten foundation bolts	
Inspect for leaks	
Greasing, Lubrication and Replenish Oil	
Clean flow indicators and other instruments/ appurtenances	

Note: Monthly activities shall be undertaken during quarterly maintenance also.

Annually

Activity	Check (Tick if complete)
Overhauling, if due	
Performance test before Summer	
Clean bearing and lubricate, replace	
Clean bearing housing examine for flaws, e.g. wear, grooving etc.	
Examine shaft sleeves for wear or scour and necessary rectification. If shaft sleeves are not used, shaft at gland packing's should be examined for wear.	
Calibration of all vital instruments i.e. pressure gauge, vacuum gauge, ammeter, voltmeter, Wattmeter, frequency meter, tachometer, flow meter, etc.	
Conduct performance test of the pump for discharge, head efficiency, pressures and power	
Examine earth connections and motor leads	
Restore running clearances through original specifications (adjust ring clearances or install new wear rings)	
Replace the impeller in case of corrosion or excessive wear	
Clean winding, bake and varnish	

Note: Quarterly activities shall be undertaken during annual maintenance also.

Overhauling of the pumpset

Activity	Check (Tick if complete)
Restoring clearances (incl. clearance between impeller-casing rings, impeller-plates)	
Replacing worn-out/ damaged parts such as impeller, wear rings/ plates, o-rings and packings, drive shaft.	
Cleaning and lubricating bearings	
Replacing corroded parts	
Removal of scaling and leaks	
Recalibration of gauges and instruments	
Testing of reassembled pumps	

PANELS, CIRCUIT BREAKERS, STARTERS**Monthly**

Activity	Check (Tick if complete)
Blow the dust and clean internal components in the panel, breaker	
Tighten all connections of cable, wires, jumpers and busbars. All carbon deposits shall be cleaned.	
Adjust relay setting.	
Test spring charging mechanism and manual cranking arrangement.	
Clean all exposed insulators.	
Test functioning of trip circuit and alarm circuit.	
Conduct test for opening & closing timing of breaker.	
Check contact resistance between male & female contacts	

Quarterly

Activity	Check (Tick if complete)
Clean with smooth polish paper all the fixed and moving contacts	
Replace the oil in oil tank	
Check insulation resistances.	
Check conditions of insulators and replace if necessary	
Tighten all connections in marshalling boxes of breakers and transformer.	
Oil top up in MOCB/LOCB/HT OCB.	
Measure contact resistance and check male & female contacts for any pitting	
Check dielectric strength of oil and replace (HT)	

Note: Monthly activities shall be undertaken during quarterly maintenance also.

Annually

Activity	Check (Tick if complete)
Carry out servicing of all components, thoroughly clean and reassemble.	
Calibrate voltmeter, ammeter, frequency meter etc.	
Replace oil in breaker. (HT)	
Testing of protection relay with D.C. injection.	
Servicing of HT breaker and contactor	

Note: Quarterly activities shall be undertaken during annual maintenance also.

TRANSFORMER & SUBSTATION**Monthly**

Activity	Check (Tick if complete)
Repair leakages through CT/PT unit, transformer tank and HT/LT bushings.	
Change the silica gel (if pink in colour)	
Top up oil level in transformer tank	
Tighten all connections (relay contacts, cable termination) in marshalling box etc.	
Test AB switch and DO fuse assembly.	
Clean radiators free from dust and scales.	
Pour 3-4 buckets (6 to 8 buckets in summer) of water in earth pit	
Inspect lightning arrestor and HT/LT bushing for cracks and dirt.	

Quarterly

Activity	Check (Tick if complete)
Change or filter transformer oil in case of dielectric strength is not as desired.	
Check insulation resistance of all equipment's in sub-station, continuity of earthlings and earth leads.	
Test tap changing switch.	
Change or filter oil in CT/PT if dielectric strength is not in desired.	
Tighten contact faces of AB switch and DO/HG fuse; apply petroleum jelly or grease to moving components of AB switch.	

Note: Monthly activities shall be undertaken during quarterly maintenance also.

Annually

Activity	Check (Tick if complete)
Replace Oil after monsoon	
Measure resistance of earth pit. Resistance shall not exceed 1 ohm.	
Tighten bus bar connections, clean contact faces, change rusted nut bolts.	
Calibrate the protection relay for functioning. Correct relay setting if necessary.	
Earth filling and metal spreading to remove water logging	
Test transformer oil for acidity test.	
Check drainage arrangement to prevent water logging	

Note: Quarterly activities shall be undertaken during annual maintenance also.

Long term

Activity	Frequency	Check (Tick if complete)
Painting transformer & steel structure	2 years	
Overhaul of Transformer: <ul style="list-style-type: none"> ▶ Replace gaskets and rubber items: between tap changer flange and transformer tank, Gaskets for valve flanges, Gaskets for radiator valve flanges, Gaskets for turret and bushings flanges, Gasket between PRD and transformer tank cover, etc. ▶ The core of transformer and winding replacement after 5 years for transformer up to 3000 kVA and after 7–10 years for transformers of higher capacity. 	5 years	

FILTER PLANT & HEADWORK**Monthly**

Activity	Component	Check (Tick if complete)
Calibrate optimum dosage of coagulant (based on laboratory analysis)	Inlet channel	
Lubricating & oiling all motors & gearbox	Alum dosing	
Clean all electric connections	All units	
Repairing leaks (pressure grouting in civil structures)	All units	
Greasing/ Lubrication/ Oil top up of all moving parts of bridge (trolley, gearbox)	Clariflocculator	
Repairing leaks in chemical feeder, dosing plumbing, air blower pipes	All units	

Quarterly

Activity	Component	Check (Tick if complete)
Lubrication and oiling of motors	All units	
Lubricate bearing and gear trains	Alum dosing	
Cleaning all electromechanical components	All units	
Valve/Gate Lubrication and servicing	All units	
Lubrication, oiling, greasing and servicing of backwash pump	Filter gallery	
Cleaning of alum, PAC, chlorine storage rooms	Chemical storage	
Calibrate all dosing equipment	All chemical dosing units	
Replace all corroded parts all water level indicators, bolts, nuts, washers, ladders, rungs, metal railings, insert plates	All units	
All signages (repairs, replacement if damaged)	All units	
Replenish safety kits	Chlorine room	
Mock drill	Filter plant	

Note: Monthly activities shall be undertaken during quarterly maintenance also.

Half yearly

Activity	Component	Check (Tick if complete)
Replace lost filter media (as per schedule B)	All units	
Servicing chlorine lifting device	Alum dosing	
Cleaning of reservoirs	All units	

Annually

Activity	Component	Check (Tick if complete)
Calibration of flow measuring devices, weighing machine, gauges	All units	
Servicing and checking of the valves/ gates	Alum dosing	
Cleaning, plastering and coating of mixing tanks	Flash mixer	
Repairing leaks in all pipes, channels, laterals	All units	
Painting all metallic components (valves, handrails, pipes, ladders etc)	All units	
Overhaul of clarriflocculator bridge i. Realign traction wheels	Clariflocculator	

ii. Replace rubber wheels		
iii. M.S Scrapper condition check and replace if necessary		
iv. Adjust clearances and alignments		
v. Motor servicing		

Note: Quarterly activities shall be undertaken during annual maintenance also.

Long term

Activity	Frequency	Check (Tick if complete)
Painting civil structures (external & internal), fixtures (window, doors etc)	2 years	

VALVES (sluice, butterfly, NRV, kinetic air, zero velocity)**Monthly**

Activity	Check (Tick if complete)
Tighten bolts, nuts, packing	
Disc and seat ring lapping in sluice valves	
Lubrication of sluice and butterfly valve	
Plug leakages (gaskets, packing etc)	
Clean small orifice nipple in Kinetic air valves	

Quarterly

Activity	Check (Tick if complete)
Valve/Gate Lubrication and servicing	
Servicing of isolating valve (kinetic air valve)	
Replace damaged balls or seats of orifices(kinetic air valve)	
Check seal ring and tight shut-off (Butterfly valve)	

Note: Monthly activities shall be undertaken during quarterly maintenance also.

Annually

Activity	Check (Tick if complete)
Painting all valves with oil paint	
Oil/ grease change in gearing arrangement (Butterfly valve)	
Calibration and servicing of all valves and gates	

Note: Quarterly activities shall be undertaken during annual maintenance also.

Long term

Activity	Frequency	Check (Tick if complete)
Replacement of spindle or spindle nut (sluice valve)	2 years	

WATER METERS/ FLOW METERS**Monthly**

Activity	Check (Tick if complete)
Cleaning chamber, casing, box	
Check and plug leakages	
Clean deposits	

Annually

Activity	Check (Tick if complete)
Calibrate & validate readings and range	
Disconnect and service (ultrasonic)	

Note: Monthly activities shall be undertaken during annual maintenance also.

OVERHAUL SCHEDULE

Activity – Included in quoted price	Frequency (months)	Tentative schedule
Replace Gland packings, mechanical seal	3	Jan, Apr, Jul, Oct
Replace balls & seats in Kinetic air valves	3	Jan, Apr, Jul, Oct
Oil topup in panels/ starters/ circuit breakers	3	Jan, Apr, Jul, Oct
Check conditions of insulators and replace (panels/ starters/ breakers)	3	Jan, Apr, Jul, Oct
Replace lost filter media – Effective size of filter sand 0.45 to 0.70 mm, uniformity coefficient not more than 1.7 nor less than 1.3, depth of filter 0.75 M, free board 50 cm, gravel 0.45 M in depth, sand and gravel conforming to IS: 8491 (i) – 77	6	Jan and Jul
Replace all corroded parts all water level indicators, bolts, nuts, washers, ladders, rungs, metal railings, insert plates (Note: Corrosion should not occur if preventive measures like painting, etc are done. As such, the replacement is supposed to be done immediately post identification)	12	Jan
Overhaul of clariflocculator bridge (realignment, servicing, rubber wheels, motor, gearbox)	12	Jan
Calibration & Servicing of gauges, flow meters, valves	12	Jan
Servicing (Starters, Breakers and Panels)	12	Jan
Leak repairs, plastering in all civil components - Pressure grouting to arrest leaks from structures and additional coating of cement mortar plastering to plug the leakage from structure of SR and through the pipes and valves	12	Jan
Pump Overhaul (activities as per checklist)- submersible set	12	Jan
Pump Overhaul (activities as per checklist)- VT/ centrifugal	24	Jan 20..... and 20.....
Replacement of spindle or spindle nut (sluice valve)	24	Jan 20..... and 20.....
Transformer overhaul: Core and winding replacement, gaskets etc	60	Jan 20.....

Painting of metallic blades and shafts (Flash mixer)	12	Oct
Painting MS pipes within headwork premise	12	Oct
Painting Handrails	12	Oct
Painting and marking level indicators, instruments, charts	12	Oct
Painting ladders	12	Oct
Painting of Alum and lime solution tanks with anti-corrosive paint. (Chemical feed unit)	12	Oct
Painting air valve, sluice valve, riser pipe of air valve, zero velocity valve, butterfly valve (outdoor), bypass arrangement	12	Oct
Activity – Paid separately	Frequency (months)	Check (Tick if complete)
Cleaning water storage structures	6	Jan and Jul
Painting civil structures (external & internal)	24	Oct 2027-28 and 2030-31
Painting transformer & steel structure	24	Oct 2027-28 and 2030-31
Painting doors, windows, ventilation, shutter, pump, motor, equipment inside pump house, transformer yard, D.P. structure	24	Oct 2027-28 and 2030-31

iii. Specifications for painting:

- ▶ Exterior paint: shall be acrylic emulsion paint colour (like APEX): pump house, treatment plants, treated water pumping stations, GSRs, ESRs, sump, store
- ▶ Oil paint colour: All type of doors, windows, ventilation, shutter, pump, motor, all valves & equipment inside pump house, transformer yard, D.P. structure, transformer etc
- ▶ Black japan colour: air valve, sluice valve, riser pipe of air valve, zero velocity valve, butterfly valve (outdoor), bypass arrangement etc.

iv. Activities in general housekeeping and maintenance:

- ▶ Desilting of channels, wells, tanks
- ▶ Remove debris from the premises
- ▶ Remove aquatic weed from channels, storage structures and premises
- ▶ Removal of algae from surfaces
- ▶ Sorting, Stacking and Marking of inventory (Tools, pipes, fittings, Spares etc.)
- ▶ Sweeping the entire premises
- ▶ Maintaining signages
- ▶ Pre-summer site cleaning and pre-monsoon cleaning of storm water drains
- ▶ Gardening and maintaining the landscapes in the premise
- ▶ Maintenance of safety kits, fire extinguishers

v. Signages

- ▶ Safety Signs: To warn workers and visitors of potential hazards, such as hazardous chemical, low ceilings, or hazardous materials.
- ▶ Directional Signs: To guide visitors and employees through the plant, indicating where various work areas and equipment are located.
- ▶ Identification Signs: Label equipment, rooms, or areas with specific names or numbers
- ▶ Informational Signs: Instructions for using equipment, procedures for handling hazardous materials, or emergency evacuation routes.
- ▶ Instructional Signs: Step-by-step instructions on how to perform specific tasks or use the machinery correctly and safely.

- ▶ **Regulatory Signs:** Mandated by OSHA and other regulatory entities to notify employees of laws and regulations that apply to the plant.
- ▶ **Layout/ flow diagram of the RWSS:** Shall be printed on A2 size paper and mounted on the wall of HW office for information of the visitors.
- ▶ **Assets:** All assets must have signages to indicate design capacity, OEM, type etc. (e.g. in case of pump set- the section catered by the pump, maker of the pump and designed flow of the pump)

vi. Weather specific activities

a) Pre-summer: Yearly performance testing

- ▶ **Performance test** shall be conducted for full capacity in the month of January or February, and all rectifications shall be completed before 28 February. All equipment and assets shall be ready for summer by the end of February.

Period/ Time	15 th January to 30 th January of each year
Parameters to be observed and recorded	<ul style="list-style-type: none"> ▶ Head achieved ▶ Discharge achieved ▶ Power Input to motor & Speed of pump ▶ Water distribution to tail end ▶ Leaks
Test codes	BIS 9137, 10981 and 5120
Performance tests for	<ul style="list-style-type: none"> i. All pump- motor set (including working & standby) shall be tested one at a time. ii. All working pump-motor set to be tested (30-60 minutes) iii. All standby pump-motor set to be tested (30-60 minutes) iv. Filter plant to be operational for entire test duration (i, ii, iii)

▶ Preparedness activities before summer

- Stocking of critical spares and consumables
- Clear the site of all materials susceptible to fires such as oil papers, jute cloths, dry leaves
- All firefighting systems shall be in working condition
- All electrical connections shall be tightened and insulated properly
- Cleaning, testing and replacement of silica gel in breathers etc. of transformers
- Owing to power demand surges, voltage fluctuations occur more frequently, causing damage to critical equipment. It is crucial to monitor the input voltage or take precautions by installing components such as on-load tap changer (OLTC) for transformer

b) Preparedness for monsoon

- ▶ **Preparedness activities before monsoon:** In monsoon, raw water turbidity is high. Chlorine and PAC consumption is higher in monsoon. Contractor shall maintain adequate stock of these important consumables and spares necessary for ensuring functioning of the plant.
 - Stock review of Consumables such as Chlorine and PAC
 - Performance testing of dosing devices & calibration
 - Leak and seepage rectification work to avoid ingress of water
 - Insulation of electrical panels, water seals to be checked
 - Cleaning, testing and replacement of silica gel in breathers etc. of transformers
 - Clearing drainages choked with dust, leaves and other materials
 - Dewatering pumps to be serviced and kept in working condition
 - Cover all open excavations and drains.

ANNEXURE-VIII RECORDS**1) Filter Plant Register****Name of Project:**

Zone									
District									
Scheme Name									
Filter Plant Capacity (MLD)									
Filter Plant Type									
Date	Condition of filter plant (working/breakdown)	Daily treated water quantity (MLD)	Raw water turbidity	Treated water turbidity	Pre chlorination (ppm)	Post chlorination (ppm)	Clear water pH	PAC usage for the day (kg)	Total units of electricity consumed

Signature of Contractor

1.1 Filter bed Head loss & Backwash register**Name of Project:**

Filter No.	Time & Date		Hours Operated			Head Loss		Backwash		Notes on condition of filters & problem in operations
	Start	Stop	Today	Previous	Total	Start (m)	Stop (m)	Minutes	Quantity (m ³)	

Signature of Contractor

2) Pumping Station Report**Name of Project:****Daily Pumping Report**

Sr. No.	Pump No.	Pump Starting Time	Pump Stopping Time	Pumping Hours	Units of Power Consumed (KWh)	Supply Reservoir		Flowmeter		Total Water Pumped (MLD)
						Level(M)		Reading(m³)		
						Initial	Final	Initial	Final	
1										
2										
3										
4										
5										
6										
7										

Signature of Contractor

3) Chemical Stock & Dosing**Name of Project: -**

Sr. No.	Date	Income/ Opening balance			Usage			Balance			Remarks
		Alum (In Kg)	PAC (30%) in Kg	Chlorine tonner (In Kg)	Alum (In Kg)	PAC (30%) in Kg	Chlorine tonner (In Kg)	Alum (In Kg)	PAC (30%) in Kg	Chlorine tonner (In Kg)	
1											
2											
3											
4											
5											
6											
7											

Signature of Contractor

4) Stores**4.1 Material Entry Register****Name of Project:**

Date	Name of material	Material Code	Received from	Invoice Number	Quantity Received	Receiver's Name & Signature

4.1 Material Issue Register**Name of Project:**

Date	Name of material	Material Code	Issued from	Invoice Number	Quantity Issued	Issuer's Name & Signature	Receiver's Name & Signature

4.1 Material Stock Register

- Agency has to maintain ledger for all materials including opening balance, issued in the month, closing balance

5) Grievance Register**Name of Project:**

Registration Number	Date of Complaint	Detail of Complainant (Name, Mobile number,)	Description of Complaint	Complaint location (Village/ town/ hamlet)	Action taken	Resolution Date

Signature of Contractor

6) Visitor's Register**Name of Project:**

Date	Visitor's Name	Comments/ Suggestions during visit	Visitor's sign	Action taken	Agency representative's sign

7) Preventive & Curative Maintenance register**Name of Project:****Report of maintenance work – Preventive & Curative Maintenance (separate registers to be maintained)**

Sr. No.	Date	Nature of work attended	Remarks
1			
2			
3			
4			
5			
6			
7			
8			
9			

Signature of Contractor

7.1 Calibration of Instruments register**Name of Project:****Report of calibration of Instruments installed**

Sr. No.	Name of Instrument (Pressure Gauge, Flow meter, Relay, Voltmeter, Ammeter etc.)	Instrument No. (if any)	Qty.	Date of calibration	Remarks
1					
2					
3					
4					
5					
6					
7					
8					

Signature of Contractor**Note:**

- a) Calibration report shall be submitted along with calibration certificate.
- b) This register is to be maintained at the site office and is separate from the calibration log to be pasted near the equipment

8) Daily Habitation wise Water Supply Report**Name of Project:**

Date	Village/ Town / hamlet Name	Water received from Reg. WSS				Details of Residual Chlorine in Water	Signature of Contractor's Engineer etc.	Remarks
		In Qty	In Hrs.					
			From	To	Total Hrs.			

Signature of Contractor

9) Leak Repair Register**Name of Project:**

Date	Name of Section	Details of Existing Pipeline			Chainage / Location of Leakage	Details of Material Consumed	Repairing Status Date & Time		Remarks
		Type	Class	Dia			Repaired	Un-Repaired	

Signature of Contractor

S.No.	Name of Hw	Name of Pumping station		Source	Machinery Details						Working	Stand by	Total	Working Hour	Tender End Date	Man Power
		From	To		Type	Head	Discharge(M3/h)	H.P.	Kw	Cat.						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
RADHANPUR SECTION																
1	Satun HW`	Satun CWS	Radhanpur Town	CWS	HSCF	23	342	60	37		2	1	3	16	31-03-2028	22
			Moti Pimpli Rising Main		HSCF	35	241	60	37		2	1	3	19		
			Dharavadi Rising Main		HSCF	38	251	60	45		2	1	3	18		
			Santalpur Sump		HSCF	53	526	150	110		2	1	3	24		
			Satun ESR		HSCF	34	216	50	37		1	1	2	12		
2	Dharavadi SHW	CWS	Dharavadi ESR 1	Dharavadi Rising Main	HSCF	34	180	40	30		2	1	3	12		
			Dharavadi ESR 2		HSCF	34	198	40	30		1	1	2	12		
3	Sinad SHW	CWS	Sinad ESR	Satun Rising Main	HSCF	33	198	40	30		1	1	2	12		
4	Sherganj SHW	CWS	Sherganj ESR 1	SUMP	HSCF	34	180	40	30		1	1	2	12		
			Sherganj ESR 2		HSCF	34	126	30	22		1	1	2	12		
5	Bhilot SHW	CWS	Bhilot ESR 1	SUMP	HSCF	33	198	40	30		1	1	2	12		
			Dahisar ESR 2		HSCF	70	108	50	37		1	1	2	12		
6	Dahisar SHW	CWS	Dahisar ESR	SUMP	HSCF	33	198	40	30		1	1	2	12		

7	Moti Pimpli SHW	CWS	Moti Pimpli ESR	SUMP	HSCF	33	90	20	15		1	1	2	12		
8	Gotaraka SHW	CWS	Gotaraka ESR	SUMP	HSCF	33	216	40	30		1	1	2	12		
8	Ranakpur H/W	Ranakpur Sump	WTP	NMC	VT	65	1303.2	422	315		2	2	4	22	17-09-2027	3
		Ranakpur Sump	WTP	NMC	SCF	33	1250	201	150		1	0	1	22		
		Ranakpur Canal	Ranakpur Sump	NMC	Polder Pump	15	840	100	75		3	1	4	12	22-07-2026	
VARAHI SECTION																
9	Varahi H/W	Varahi Sump	Varahi ESR 1	Sump	HSCF	42.5	210	50	37		2	1	3	16	17-09-2027	2
		Varahi Sump	Varahi ESR 2	Sump	HSCF	37	220	50	37		1	1	2	16	17-09-2027	
		varahi HW Bore	Varahi HW Sump	Tw	Sub. Pump	198	48.00	60	44.70		1	0	1	8	31/06/2028	
10	Abiyana H/W	Abiyana Sump	Abiyana ESR	Sump	HSCF	37	146	30	22		2	1	3	16	17-09-2027	2
		Abiyana HW Bore	Abiyana HW Sump	Tw	Sub. Pump	198	48.00	60	44.70		1	0	1	8	31/06/2028	
11	Sidhada H/W	Sidhada Sump	Sidhada ESR 1	Sump	HSCF	42	125	30	22		2	1	3	16	17-09-2027	2
		Sidhada Sump	Sidhada ESR 2	Sump	HSCF	43	94	25	18.5		1	1	2	16	17-09-2027	
		Sidhada Sump	Zazam Sump	Sump	HSCF	48	201.6	60	45		1	1	2	16	17-09-2027	
		Sidhada Sump	Sidhada Boosting	Sump	HSCF	30	300	50	37		2	2	4		New	
12	Zazam H/W	Zazam Sump	Zazam ESR	Sump	HSCF	42	177	40	30		1	1	2	16	17-09-2027	2
		Zazam KBC	Zazam Filter	KBC	Polder Pump	25	66.67	25	18.63		1	1	2	16	19-05-2028	

	Jamvada Pond	Pond	Sump	Pond	Sub Mono	30	90.00	20	15.00		2	1	3		New	
	Ranmalpura Pond	Pond	Sump	Pond	Sub Mono	50	100.00	30	22.00		2	2	4		New	
13	Santalpur H/W	Santalpur Sump	Santalpur ESR	Sump	HSCF	45	170	50	37		1	1	2	12	17-09-2027	2
		Santalpur Sump	Garamadi Sump	Sump	HSCF	34	119	25	18.5		1	1	2	16	17-09-2027	
		Santalpur Sump	Kalyanpura Sump	Sump	HSCF	14	136.8	15	9.3		1	1	2	16	17-09-2027	
14	Kalyanpura H/W	Kalyanpura Sump	Kalyanpura ESR	Sump	HSCF	41	173	40	30		1	1	2	16	17-09-2027	2
		Kalyanpura Sump	Bakutra Sump	Sump	HSCF	51	51	20	15		1	1	2	12	17-09-2027	
		Kalyanpura Sump	Dhokavada Sump	Sump	HSCF	71	104	50	37		1	1	2	16	17-09-2027	
		canal near Sump	Kalyanpura HW Sump	Sump	Sub. Mono Pump	34	31.00	25	18.63		1	1	2	12	17-09-2027	
15	Dhokavada H/W	Dhokavada Sump	Dhokavada ESR 1	Sump	HSCF	36	94	25	18.5		1	1	2	16	17-09-2027	2
		Dhokavada Sump	Dhokavada ESR 2		HSCF	32	62	15	11		1	1	2	16	17-09-2027	
		Dhokavada Sump	Charanka- Aluvas Sump		HSCF	40	51	15	11		1	1	2	8	17-09-2027	
16	Garamadi H/W	Garamadi Sump	Garamadi ESR		HSCF	58	80	30	22		2	1	3	16	17-09-2027	2
17	Madhuttra Sump	Canal near Sump	Madhuttra Sump	Sump	Sub. Mono Pump	34	31.00	25	18.63		1	1	2	16	31/06/2028	1
18	Pedaspura TW	Bore	Pedaspura Vill	Tw	Sub. Pump	198	48.00	60	44.70		1	0	1	8	31/06/2028	1
19	Jarusha TW	Bore	Jarusha Vill.	Tw	Sub. Pump	162	48.00	50	37.25		1	0	1	8	31/06/2028	1

M&R to Radhanpur&Santalpur RWSS Taluka- Radhanpur and SantalpurDist-Patan									
Land Details									
Sr.no	Name of Rwss	HW	Name Of Village	Survey No	Compound Area		Built up Area		Purpose
					in Sqmtr	in Sqft	in Sqmtr	in Sqft	
	PHSSD RADHANPUR								
1	Radhanpur&Santalpur RWSS	Satun HW	Radhanpur		31368	337519.68			Main Head Work
2	Radhanpur&Santalpur RWSS	Dharavadi HW	Dharavadi		10000	107600.00			Sub Head Work
3	Radhanpur&Santalpur RWSS	SINAD HW	Sinad		2500	26900.00			Sub Head Work
4	Radhanpur&Santalpur RWSS	SHERGANJ HW	Sherganj		10016	107772.16			Sub Head Work
5	Radhanpur&Santalpur RWSS	BHILOT HW	Bhilot		10000	107600.00			Sub Head Work
6	Radhanpur&Santalpur RWSS	DAISAR HW	Daisar		10000	107600.00			Sub Head Work
7	Radhanpur&Santalpur RWSS	GOTARAKA HW	Gotarka		3600	38736.00			Sub Head Work
8	Radhanpur&Santalpur RWSS	MOTI PIPALI HW	Moti Pipali		10144	109149.44			Sub Head Work
				Total	87628	942877.28			
	PHSSD SANTALPUR								
1	Radhanpur&Santalpur RWSS	Varahi HW	Varahi	05/01	3648	39252.48			Sub Head Work
2	Radhanpur&Santalpur RWSS	AbiyanaSub HW	Abiyana	304	4200	45192			Sub Head Work
3	Radhanpur&Santalpur	Sidhada HW	Sidhada	18 and	15360	165273.6			Sub Head Work

	RWSS			365					
4	Radhanpur&Santalpur RWSS	Zazam HW	Zazam	690 of 1	7693	82776.68			Sub Head Work
5	Radhanpur&Santalpur RWSS	SantalpurHW	Santalpur	145 of	7200	77472			Sub Head Work
6	Radhanpur&Santalpur RWSS	Garamdi HW	Garamdi	360	3355	36099.8			Sub Head Work
7	Radhanpur&Santalpur RWSS	KalyanpuraHW	Kalyanpura	120 (santalpur Village Survey. No)	2700	29052			Sub Head Work
6	Radhanpur&Santalpur RWSS	Dhokawada HW	Dhokawada	930	5500	59180			Sub Head Work
				Total	49656	534298.56			

Note: - "The agency shall consider the maintenance and repairing period as follows: 2026 as the 1st year, 2027 as the 2nd year, 2028 as the 3rd year, 2029 as the 4th year, 2030 as the 5th year."

NAME OF SCHEME : RADHANPUR-SANTALPUR GROUP RWSS TA: SANTLAPUR, DIST: PATAN															
WATER DEMAND CALCULATION															
Radhanpur Section															
Group Wise Details population With Demand															
SR	Taluka	H/W	Village	H	2011	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030
1	Radhanpur	Satun HW	5		11573	14473	14666	14859	15052	15244	1.44	1.47	1.48	1.51	1.53
2	Radhanpur	Dharavadi HW	15	1	28983	36244	36727	37213	37695	38180	3.64	3.69	3.72	3.77	3.81
3	Radhanpur	SINAD HW	4		10437	13051	13226	13400	13573	13749	1.31	1.33	1.33	1.36	1.37
4	Radhanpur	SHERGANJ HW	8		18674	23352	23664	23977	24288	24599	2.36	2.37	2.38	2.43	2.46
5	Radhanpur	BHILOT HW	6		10348	12940	13113	13284	13458	13631	1.3	1.32	1.32	1.35	1.36
6	Radhanpur	DAISAR HW	10		14794	18501	18746	18995	19241	19488	1.83	1.89	1.9	1.92	1.96
7	Radhanpur	GOTARAKA HW	6	1	10801	13507	13688	13867	14047	14229	1.34	1.37	1.39	1.41	1.42
8	Radhanpur	MOTI PIPALI HW	10		14968	18717	18968	19216	19467	19718	1.86	1.88	1.94	1.97	1.97
		Total:	64	2	120578	150785	152798	154811	156821	158838	15.08	15.32	15.46	15.72	15.88
9	Radhanpur City	Satun HW	1		39558	59317	60635	61952	63269	64586	8.3	8.49	8.67	8.86	9.04
		Grand Total			160136	210102	213433	216763	220090	223424	23.38	23.81	24.13	24.58	24.92
Santalpur Section															
Group Wise Details population With Demand															
SR	Taluka	H/W	Village	H	2011	2026	2027	2028	2029	2030	2026	2027	2028	2029	2030
1	Santalpur	Varahi	18		32231	42750	43451	44151	44857	45559	4.28	4.35	4.42	4.5	4.55
2	Santalpur	Abiyana	10	3	17613	22025	22320	22614	22909	23202	2.22	2.23	2.25	2.29	2.32
3	Santalpur	Sidhada	10	5	18664	23340	23651	23963	24273	24586	2.35	2.37	2.39	2.45	2.47
4	Santalpur	Zazam	6		9847	12314	12478	12643	12807	12973	1.23	1.25	1.25	1.28	1.31
5	Santalpur	Santalpur	3	1	9426	11788	11945	12103	12259	12417	1.18	1.19	1.21	1.23	1.24
6	Santalpur	Kalyanpura	4		6269	7840	7945	8049	8153	8258	0.78	0.8	0.81	0.81	0.83
7	Santalpur	Garamadi	5		12146	15189	15391	15594	15798	16000	1.52	1.54	1.55	1.59	1.61
8	Santalpur	Dhokavada	6		8364	10459	10598	10737	10878	11017	1.03	1.06	1.07	1.08	1.1
		Grand Total:	62	9	114560	145705	147779	149854	151934	154012	14.59	14.79	14.95	15.23	15.43

NAME OF SCHEME : RADHANPUR-SANTALPUR RWSS TA: RADHANPUR, DIST: PATAN														
WATER DEMAND CALCULATION														
Sr No.	Taluka	Village Name	L.C.No.	Population						2026	2027	2028	2029	2030
				2011	2026	2027	2028	2029	2030					
				1.67%	15	16	17	18	19					
	SATUN HW													
1	Radhanpur	Satun	507429	2518	3149	3191	3233	3275	3317	0.31	0.32	0.32	0.33	0.33
2	Radhanpur	Kamalpur (S)	507440	4486	5610	5685	5760	5834	5909	0.56	0.57	0.58	0.58	0.59
3	Radhanpur	Shergadh	507441	1192	1491	1511	1530	1550	1570	0.15	0.15	0.15	0.16	0.16
4	Radhanpur	Shabdalpura	507442	2021	2527	2561	2595	2629	2662	0.25	0.26	0.26	0.26	0.27
5	Radhanpur	Najupura	507443	1356	1696	1718	1741	1764	1786	0.17	0.17	0.17	0.18	0.18
			TOTAL	11573	14473	14666	14859	15052	15244	1.44	1.47	1.48	1.51	1.53
		DHARAVADI HW												
6	Radhanpur	Vadnagar	507398	1778	2223	2253	2283	2312	2342	0.22	0.23	0.23	0.23	0.23
7	Radhanpur	Vijaynagar	507399	1228	1536	1556	1577	1597	1618	0.15	0.16	0.16	0.16	0.16
8	Radhanpur	Alhabad	507400	1570	1963	1990	2016	2042	2068	0.2	0.2	0.2	0.2	0.21
9	Radhanpur	Dharavadi	507401	3152	3942	3994	4047	4099	4152	0.39	0.4	0.4	0.41	0.42
10	Radhanpur	Jetalpura	507402	1380	1726	1749	1772	1795	1818	0.17	0.17	0.18	0.18	0.18
11	Radhanpur	Nanapura	507403	2200	2751	2788	2825	2861	2898	0.28	0.28	0.28	0.29	0.29
12	Radhanpur	Badarpura	507404	1229	1537	1557	1578	1598	1619	0.15	0.16	0.16	0.16	0.16
13	Radhanpur	Bhadiya	507405	1091	1364	1383	1401	1419	1437	0.14	0.14	0.14	0.14	0.14
14	Radhanpur	Arjansar	507406	3169	3963	4016	4069	4122	4175	0.4	0.4	0.41	0.41	0.42
15	Radhanpur	Subapura	507407	1813	2267	2297	2328	2358	2388	0.23	0.23	0.23	0.24	0.24
16	Radhanpur	malpur (Dharava	507408	2073	2592	2627	2662	2696	2731	0.26	0.26	0.27	0.27	0.27
17	Radhanpur	Sultanpura	507409	2492	3116	3158	3199	3241	3283	0.31	0.32	0.32	0.32	0.33
18	Radhanpur	Maghapura	507410	2055	2570	2604	2638	2673	2707	0.26	0.26	0.26	0.27	0.27
19	Radhanpur	Shahpur	507411	551	689	698	707	717	726	0.07	0.07	0.07	0.07	0.07
20	Radhanpur	Dev	507412	2202	2754	2790	2827	2864	2901	0.28	0.28	0.28	0.29	0.29
H1	Radhanpur	New Porana	507413	1000	1251	1267	1284	1301	1317	0.13	0.13	0.13	0.13	0.13
			TOTAL	28983	36244	36727	37213	37695	38180	3.64	3.69	3.72	3.77	3.81
		SINAD HW												
21	Radhanpur	Sinad	507417	3371	4215	4272	4328	4384	4441	0.42	0.43	0.43	0.44	0.44
22	Radhanpur	Amirpura	507418	2203	2755	2792	2828	2865	2902	0.28	0.28	0.28	0.29	0.29
23	Radhanpur	Masali	507419	2493	3117	3159	3201	3242	3284	0.31	0.32	0.32	0.32	0.33
24	Radhanpur	Sardarpura	507420	2370	2964	3003	3043	3082	3122	0.3	0.3	0.3	0.31	0.31
			TOTAL	10437	13051	13226	13400	13573	13749	1.31	1.33	1.33	1.36	1.37

		SHERGANJ HW												
25	Radhanpur	Surka	507421	1000	1251	1267	1284	1301	1317	0.13	0.13	0.13	0.13	0.13
26	Radhanpur	Sherganj	507423	1564	1956	1982	2008	2034	2060	0.2	0.2	0.2	0.2	0.21
27	Radhanpur	Premanagar	507424	2059	2575	2609	2644	2678	2712	0.26	0.26	0.26	0.27	0.27
28	Radhanpur	Porana	507425	1338	1673	1696	1718	1740	1763	0.17	0.17	0.17	0.17	0.18
29	Radhanpur	Memdavad	507426	4708	5887	5966	6045	6123	6202	0.59	0.6	0.6	0.61	0.62
30	Radhanpur	Kolhapur	507427	1885	2357	2389	2420	2452	2483	0.24	0.24	0.24	0.25	0.25
31	Radhanpur	Bandhvad	507428	4135	5171	5240	5309	5378	5447	0.52	0.52	0.53	0.54	0.54
32	Radhanpur	Javantri	507435	1985	2482	2515	2549	2582	2615	0.25	0.25	0.25	0.26	0.26
		TOTAL	18674	23352	23664	23977	24288	24599	2.36	2.37	2.38	2.43	2.46	
		BHILOT HW												
33	Radhanpur	Bhilot	507444	3291	4115	4170	4225	4280	4335	0.41	0.42	0.42	0.43	0.43
34	Radhanpur	Nayatvada	507445	1861	2327	2358	2389	2420	2451	0.23	0.24	0.24	0.24	0.25
35	Radhanpur	Limbada	507446	536	670	679	688	697	706	0.07	0.07	0.07	0.07	0.07
36	Radhanpur	Santhali	507447	1819	2275	2305	2335	2366	2396	0.23	0.23	0.23	0.24	0.24
37	Radhanpur	Rangpura	507457	702	878	890	901	913	925	0.09	0.09	0.09	0.09	0.09
38	Santalpur	Zandala	507458	2139	2675	2711	2746	2782	2818	0.27	0.27	0.27	0.28	0.28
		TOTAL	10348	12940	13113	13284	13458	13631	1.3	1.32	1.32	1.35	1.36	
		DAISAR HW												
39	Santalpur	Lodra	507459	2598	3249	3292	3336	3379	3422	0.32	0.33	0.33	0.34	0.34
40	Santalpur	Boruda	507415	1506	1883	1908	1934	1959	1984	0.19	0.19	0.19	0.2	0.2
41	Santalpur	Charanda	507416	1255	1569	1590	1611	1632	1653	0.16	0.16	0.16	0.16	0.17
42	Radhanpur	Dhrandva	507422	836	1045	1059	1073	1087	1101	0.1	0.11	0.11	0.11	0.11
43	Santalpur	Daisar	507430	1308	1636	1657	1679	1701	1723	0.16	0.17	0.17	0.17	0.17
44	Santalpur	Ganjisar	507431	2248	2811	2849	2886	2924	2961	0.28	0.28	0.29	0.29	0.3
45	Radhanpur	Chalwada	507432	2098	2624	2659	2694	2729	2764	0.26	0.27	0.27	0.27	0.28
46	Radhanpur	Panvi	507433	517	647	655	664	672	681	0.06	0.07	0.07	0.07	0.07
47	Radhanpur	Lotiya	507436	1795	2245	2275	2305	2335	2365	0.22	0.23	0.23	0.23	0.24
48	Radhanpur	Thikariya	507437	633	792	802	813	823	834	0.08	0.08	0.08	0.08	0.08
		TOTAL	14794	18501	18746	18995	19241	19488	1.83	1.89	1.9	1.92	1.96	
		GOTARAKA HW												
49	Radhanpur	Gotarka	507438	3031	3790	3841	3892	3942	3993	0.38	0.38	0.39	0.39	0.4
50	Radhanpur	Dahegam	507439	2351	2940	2979	3018	3058	3097	0.29	0.3	0.3	0.31	0.31
51	Radhanpur	Dholakada	507448	1021	1277	1294	1311	1328	1345	0.13	0.13	0.13	0.13	0.13
52	Radhanpur	Chhaniyathar	507449	1518	1898	1924	1949	1974	2000	0.19	0.19	0.19	0.2	0.2
53	Radhanpur	Gulabpura	507450	818	1023	1037	1050	1064	1078	0.1	0.1	0.11	0.11	0.11
54	Santalpur	Hamirpura	507451	1312	1641	1663	1684	1706	1728	0.16	0.17	0.17	0.17	0.17
H2	Radhanpur	Hirapura (Dehgam)	507453	750	938	950	963	975	988	0.09	0.1	0.1	0.1	0.1
		TOTAL	10801	13507	13688	13867	14047	14229	1.34	1.37	1.39	1.41	1.42	
		MOTI PIPALI HW												
55	Radhanpur	Kalyanpura	507454	1202	1503	1523	1543	1563	1583	0.15	0.15	0.15	0.16	0.16
56	Radhanpur	Moti Pipali	507455	2534	3169	3211	3253	3296	3338	0.32	0.32	0.33	0.33	0.33
57	Radhanpur	Sarkarpura	507456	1290	1613	1635	1656	1678	1699	0.16	0.16	0.17	0.17	0.17
58	Radhanpur	Nani-Pipali	507460	1773	2217	2247	2276	2306	2336	0.22	0.22	0.23	0.23	0.23
59	Santalpur	Kolivada	507461	2812	3516	3563	3610	3657	3704	0.35	0.36	0.36	0.37	0.37
60	Santalpur	Zanjansar	507462	1041	1302	1319	1337	1354	1371	0.13	0.13	0.13	0.14	0.14
61	Santalpur	Zekada	507463	2152	2691	2727	2763	2799	2835	0.27	0.27	0.28	0.28	0.28
62	Santalpur	Undergadha	507464	670	838	849	860	871	883	0.08	0.08	0.09	0.09	0.09
63	Santalpur	Vandhiya	507465	279	349	354	358	363	368	0.03	0.04	0.04	0.04	0.04
64	Radhanpur	Delana	507452	1215	1519	1540	1560	1580	1601	0.15	0.15	0.16	0.16	0.16
		TOTAL	14968	18717	18968	19216	19467	19718	1.86	1.88	1.94	1.97	1.97	
		GRAND TOTAL	120578	150785	152798	154811	156821	158838	15.08	15.32	15.46	15.72	15.88	
1	Radhanpur	Radhanpur City		39558	59317	60635	61952	63269	64586	8.3	8.49	8.67	8.86	9.04
		Radhanpur section Total:		160136	210102	213433	216763	220090	223424	23.38	23.81	24.13	24.58	24.92

Varahi Section														
Sr No.	Taluka	Village Name	L.C.No.	Population						2026	2027	2028	2029	2030
				2011 1.67%	2026 15	2027 16	2028 17	2029 18	2030 19					
	Varahi Group													
1	Santalpur	Varahi	508660	9824	14731	15058	15385	15713	16040	1.47	1.51	1.54	1.57	1.60
2	Santalpur	Sadpura	508661	1815	2270	2300	2330	2361	2391	0.23	0.23	0.23	0.24	0.24
3	Santalpur	Joravargadh	508639	752	940	953	965	978	991	0.09	0.10	0.10	0.10	0.10
4	Santalpur	Navagam	508662	1601	2002	2029	2056	2082	2109	0.20	0.20	0.21	0.21	0.21
5	Santalpur	Kamalpur	508658	1058	1323	1341	1358	1376	1394	0.13	0.13	0.14	0.14	0.14
6	Santalpur	Lakhapura	508659	491	614	622	630	639	647	0.06	0.06	0.06	0.06	0.06
7	Santalpur	Naliya	508657	361	451	457	463	470	476	0.05	0.05	0.05	0.05	0.05
8	Santalpur	Vaghpura	508656	918	1148	1163	1179	1194	1209	0.11	0.12	0.12	0.12	0.12
9	Santalpur	Gokhantar	508667	2287	2860	2898	2936	2974	3013	0.29	0.29	0.29	0.30	0.30
11	Santalpur	Jarusa	508635	1669	2087	2115	2143	2171	2199	0.21	0.21	0.21	0.22	0.22
12	Santalpur	Sherpura	508641	824	1030	1044	1058	1072	1085	0.10	0.10	0.11	0.11	0.11
13	Santalpur	Manpura	508642	1087	1359	1377	1396	1414	1432	0.14	0.14	0.14	0.14	0.14
14	Santalpur	Dabhi	508633	1301	1627	1649	1670	1692	1714	0.16	0.16	0.17	0.17	0.17
15	Santalpur	Unrot	508634	1104	1381	1399	1417	1436	1454	0.14	0.14	0.14	0.14	0.15
16	Santalpur	Korda	508620	3998	4999	5066	5133	5200	5267	0.50	0.51	0.51	0.52	0.53
10	Santalpur	Fulpura	508640	861	1077	1091	1105	1120	1134	0.11	0.11	0.11	0.11	0.11
17	Santalpur	Gadha	508618	1657	2072	2100	2127	2155	2183	0.21	0.21	0.21	0.22	0.22
18	Santalpur	Rampura (Korda)	508619	623	779	789	800	810	821	0.08	0.08	0.08	0.08	0.08
			Total=	32231	42750	43451	44151	44857	45559	4.28	4.35	4.42	4.5	4.55
	Abiyana Group													
19	Santalpur	Abiyana	508672	2520	3151	3193	3235	3278	3320	0.32	0.32	0.32	0.33	0.33
20	Santalpur	Limgamda	508666	1359	1699	1722	1745	1768	1790	0.17	0.17	0.17	0.18	0.18
21	Radhanpur	Joravarganj	508727	811	1014	1028	1041	1055	1068	0.10	0.10	0.10	0.11	0.11
22	Radhanpur	Agichana	508726	1649	2062	2090	2117	2145	2172	0.21	0.21	0.21	0.21	0.22
23	Radhanpur	Karsangadh	508728	553	692	701	710	719	728	0.07	0.07	0.07	0.07	0.07
24	Radhanpur	Pedeshapura	508730	1538	1923	1949	1975	2000	2026	0.19	0.19	0.20	0.20	0.20
25	Radhanpur	Bismilahganj	508729	485	606	615	623	631	639	0.06	0.06	0.06	0.06	0.06
26	Santalpur	Gadsai	508674	2701	3378	3423	3468	3513	3558	0.34	0.34	0.35	0.35	0.36
1	Santalpur	Vadalihtar (Gadasai)		475	594	602	610	618	626	0.06	0.06	0.06	0.06	0.06
2	Santalpur	Haripura Gamadi (Karsangadh)		150	188	190	193	195	198	0.02	0.02	0.02	0.02	0.02
3	Sami	Pati (Amarapur)		3769	4713	4776	4839	4902	4965	0.47	0.48	0.48	0.49	0.50
27	Santalpur	Undi	508668	681	852	863	874	886	897	0.09	0.09	0.09	0.09	0.09
28	Santalpur	Lunichana	508669	922	1153	1168	1184	1199	1215	0.12	0.12	0.12	0.12	0.12
			Total=	17613	22025	22320	22614	22909	23202	2.22	2.23	2.25	2.29	2.32
	Sidhada Group													
29	Santalpur	Anternesh	508670	2219	2775	2812	2849	2886	2923	0.28	0.28	0.28	0.29	0.29
30	Santalpur	Daigamda	508644	1731	2165	2194	2222	2251	2280	0.22	0.22	0.22	0.23	0.23
31	Santalpur	Chanasra	508654	1656	2071	2098	2126	2154	2181	0.21	0.21	0.21	0.22	0.22
32	Santalpur	Parsund	508655	1350	1688	1711	1733	1756	1778	0.17	0.17	0.17	0.18	0.18
33	Santalpur	Patanka	508622	991	1239	1256	1272	1289	1305	0.12	0.13	0.13	0.13	0.13
38	Santalpur	Daldi	508632	1370	1713	1736	1759	1782	1805	0.17	0.17	0.18	0.18	0.18
34	Santalpur	Sidhada	508631	2971	3715	3765	3814	3864	3914	0.37	0.38	0.38	0.39	0.39
35	Santalpur	Babra	508630	1668	2086	2114	2142	2169	2197	0.21	0.21	0.21	0.22	0.22
36	Santalpur	Bavarda	508629	1102	1378	1396	1415	1433	1452	0.14	0.14	0.14	0.14	0.15
4	Santalpur	Narayan Nagar		90	113	114	116	117	119	0.01	0.01	0.01	0.01	0.01
37	Santalpur	Bamroli	508643	2716	3396	3442	3487	3532	3578	0.34	0.34	0.35	0.35	0.36
5	Santalpur	Karashangadh		150	188	190	193	195	198	0.02	0.02	0.02	0.02	0.02
6	Santalpur	Ranisar (Antarnesh)		300	375	380	385	390	395	0.04	0.04	0.04	0.04	0.04
7	Santalpur	Madhupura (Antarnesh)		200	250	253	257	260	263	0.03	0.03	0.03	0.03	0.03
8	Santalpur	Sulatanapura (Antarnesh)		150	188	190	193	195	198	0.02	0.02	0.02	0.02	0.02
			Total=	18664	23340	23651	23963	24273	24586	2.35	2.37	2.39	2.45	2.47

	Zazam Group													
40	Santalpur	Zazam	508606	3387	4235	4292	4349	4405	4462	0.42	0.43	0.43	0.44	0.45
39	Santalpur	Jamwada	508621	1332	1666	1688	1710	1732	1755	0.17	0.17	0.17	0.17	0.18
42	Santalpur	Varnosari	508607	1329	1662	1684	1706	1728	1751	0.17	0.17	0.17	0.17	0.18
44	Santalpur	Vavdi	508608	488	610	618	627	635	643	0.06	0.06	0.06	0.06	0.06
41	Santalpur	Kilana	508609	2271	2840	2878	2916	2954	2992	0.28	0.29	0.29	0.30	0.30
43	Santalpur	Fangali	508605	1040	1301	1318	1335	1353	1370	0.13	0.13	0.13	0.14	0.14
			Total=	9847	12314	12478	12643	12807	12973	1.23	1.25	1.25	1.28	1.31
	Santalpur Group													
45	Santalpur	Santalpur	508652	6006	7511	7611	7711	7811	7912	0.75	0.76	0.77	0.78	0.79
46	Santalpur	Rajusara	508653	1211	1514	1535	1555	1575	1595	0.15	0.15	0.16	0.16	0.16
47	Santalpur	Par	508645	2059	2575	2609	2644	2678	2712	0.26	0.26	0.26	0.27	0.27
9	Santalpur	Chhor(santalpur)		150	188	190	193	195	198	0.02	0.02	0.02	0.02	0.02
			Total=	9426	11788	11945	12103	12259	12417	1.18	1.19	1.21	1.23	1.24
	Kalyanpura Group													
48	Santalpur	Ranmalpura	508647	1088	1361	1379	1397	1415	1433	0.14	0.14	0.14	0.14	0.14
49	Santalpur	Bakutra	508628	2027	2535	2569	2602	2636	2670	0.25	0.26	0.26	0.26	0.27
50	Santalpur	Datrana	508648	2257	2822	2860	2898	2935	2973	0.28	0.29	0.29	0.29	0.30
51	Santalpur	Kalyanpura	508646	897	1122	1137	1152	1167	1182	0.11	0.11	0.12	0.12	0.12
			Total=	6269	7840	7945	8049	8153	8258	0.78	0.8	0.81	0.81	0.83
	Garamadi Group													
52	Santalpur	Vauva	508626	3242	4054	4108	4162	4217	4271	0.41	0.41	0.42	0.42	0.43
55	Santalpur	Roza	508650	884	1105	1120	1135	1150	1164	0.11	0.11	0.11	0.12	0.12
53	Santalpur	Garamadi	508651	1667	2085	2112	2140	2168	2196	0.21	0.21	0.21	0.22	0.22
54	Santalpur	Piprala	508671	2278	2849	2887	2925	2963	3001	0.28	0.29	0.29	0.30	0.30
56	Santalpur	Madhutra	508649	4075	5096	5164	5232	5300	5368	0.51	0.52	0.52	0.53	0.54
			Total=	12146	15189	15391	15594	15798	16000	1.52	1.54	1.55	1.59	1.61
	Dhokavada Group													
57	Santalpur	Dhokavada	508624	2597	3248	3291	3334	3378	3421	0.32	0.33	0.33	0.34	0.34
58	Santalpur	Eval	508603	494	618	626	634	642	651	0.06	0.06	0.06	0.06	0.07
59	Santalpur	Barara	508627	1315	1644	1666	1688	1710	1732	0.16	0.17	0.17	0.17	0.17
60	Santalpur	Jakhotra	508625	2393	2992	3032	3072	3112	3152	0.30	0.30	0.31	0.31	0.32
61	Santalpur	Aluvas	508623	332	415	421	426	432	437	0.04	0.04	0.04	0.04	0.04
62	Santalpur	Charanka	508604	1233	1542	1562	1583	1604	1624	0.15	0.16	0.16	0.16	0.16
			Total=	8364	10459	10598	10737	10878	11017	1.03	1.06	1.07	1.08	1.10
	Varahi section Total:			114560	145705	147779	149854	151934	154012	14.59	14.79	14.95	15.23	15.43

NAME OF SCHEME: RADHANPUR&SANTALPUR RWSS TA: RADHANPUR, DIST: PATAN

RAS RADHANPUR GROUP PIPE DETAILS						
Sr. no.	Details	Pipe Material	Dia	Qty	Total Qty	Unit
1	RISINGMAIN PIPE					
	RanakpurIntakewell to Satun WTP	MS	914mm	29200		
	Satun wtp To Milan Hotel Jn.	D.I.	600mm	7130		
	Satun wtp To Bhilot Jn.	D.I.	500mm	2649.5		
	Milan Hotel to Sinad Jn.	D.I.	450mm	913		
	Sinad Jn. To Dharvadi Sump	D.I.	400mm	7629		
	Bhilot Jn. Motipipli sump	D.I.	400mm	5868		
	Milan Hotel Jn. Sherganj taping (old & New)	D.I.	350mm	1151		
	Sherganj Taping to Sherganj HW (old & New)	D.I.	350mm	4890		
	Bhilot Jn to Bhilot HW Sump	D.I.	350mm	8130		
	Bhilot h/w To Daiser H/W	D.I.	250mm	6750		
	Gotarka Tapping to Gotarka HW	PVC	250mm	8496		
					82806.5	Rmt.
2	DHARAVADI HW					
	Dharavadi Head Works to Arjansar Jn.	D.I.	350mm	7410		
	Dharavadi HW to Vadnagar	D.I.	250mm	3770		
	Arjansar to Subapura	PVC	315mm	5498		
	Dharavdi HW to Dharavadi	PVC	315mm	3538		
	Subapura Jn. To Sultanpura Jn.	PVC	250mm	882		
	Dharavadi Village to Kamalpur	PVC	250mm	2095		
	Nanapura to Badarpura	PVC	200mm	2791		
	Vadnagar to Vijaynagar	PVC	200mm	2656		
	Kamalpur Jn to Kamalpur	PVC	200mm	992		
	Sultanpura Jn. To Dev Village	PVC	160mm	2991		
	Dharavadi HW to Jetalpura	PVC	160mm	2536		
	Badarpura to Maghapura	PVC	160mm	3098		
	Jetalpura to Bhadiya	PVC	140mm	3838		

	Maghapura Jn to Maghapura sump	PVC	140mm	24		
	Alhabad Jn to Alhabad sump	PVC	140mm	505		
	Jetalpura Jn To Jetalpura Sump	PVC	110mm	252		
	Allahabad jn to Nava porana	PVC	110mm	900		
	Vadivasahatjn. To vadivasahat Sump	PVC	90mm	888		
	Maghapurajn. To Shahpur sump	PVC	90mm	1488		
					46152.00	Rmt.
3	SINAD HW					
	Sinad to Sinad village	PVC	200mm	793		
	Sinad HW to Masali Village	PVC	200mm	6848		
	SinadHw to Amirpura Jn	PVC	200mm	3568		
	SinadHw to Sardarpura	PVC	160mm	1933		
	Amirpura Jn to Amirpura Village	PVC	160mm	1055		
	Sinad village jn. To sump	PVC	140mm	80		
	Sinad exit. To Sinad new Sump	PVC	110mm	1200		
					15477.00	Rmt.
4	SHERGANJ HW					
	SherganjHw to Memdavad Village	D.I.	250mm	4719		
	Memdabadexitingline to Memdabad Sump	PVC	250mm	2184		
	SherganjHw to Kolapur Jn	PVC	250mm	3409		
	Kolapur Jn To Bandhavad	PVC	200mm	3194		
	Sherganj to Premnagar Village	PVC	180mm	1128		
	Premnagarjn to Premngar sump	PVC	140mm	1350		
	Premnagarjn to porana sump	PVC	140mm	5400		
	SherganjHw to Surka Village	PVC	110mm	5877		
					27261.00	Rmt.
5	SATUN WTP					
	Satun WTP to Shabdalpura Village	PVC	250mm	8567		
	Satun WTP to Satun Village	PVC	250mm	5760		
	Satun Village to Ravinagar Jn	PVC	250mm	2190		

	Shabdalpura to Shergadh Village	PVC	200mm	3522		
	Ravinagar Jn. To Kamalpur Village	PVC	200mm	948		
	Sergadhjn to najupurajn.	PVC	180mm	2494		
	Satun Jn to satun Sump	PVC	160mm	408		
	Shabdalpurajn. To Shabdalpura Sump	PVC	160mm	480		
	Sergadh Jn. To Serghadh Village	PVC	140mm	288		
	Ravinagar Jn. To Ravinagar sump	PVC	90mm	510		
	Juna najupura to Nava najupura	PVC	90mm	900		
	satun h/w to Ravidham	PVC	90mm	648		
					26715.00	Rmt.
6	BHILOT HW					
	Bhilot h/w to Limdaka to santhali Jn.	PVC	250mm	3846		
	Limadkajn. to Santhali Village	PVC	200mm	2430		
	Santhalijn to zandala	PVC	160mm	5400		
	Bhilothe to Nayatwada village	PVC	160mm	4235		
	BhilotHw to bhilot village sump	PVC	140mm	2094		
	Santhalijn to rangpura	PVC	110mm	894		
	Bhilothe to navabhilot	PVC	110mm	2822		
	Sathalijn.oSanthali village old line	PVC	110mm	276		
	Nava bhilot village sump	PVC	90mm	36		
					22033.00	Rmt.
7	DAISAR HW					
	Daisarhw to Javantri Tapping	D.I.	250mm	4350		
	Daisar H/W TO Lodra Jn.	PVC	315mm	5742		
	Daisar HW to Ganjisar Section	PVC	250mm	3690		
	Lodra To Boruda	PVC	250mm	5346		
	Ganjisar village to Lotiya Village	PVC	200mm	2100		
	Javantri Village to Chalwada / Panvi Village	PVC	200mm	5892		
	Borudajn.Baruda Sump	PVC	160mm	354		
	Borudajn. Charanda	PVC	160mm	3818		

	Lotiya Jn. To Lotiya Village	PVC	140mm	640		
	Lotiya Jn. To Dhrandva Village	PVC	140mm	4860		
	Charanda jn. To Charanda Sump	PVC	140mm	586		
	Ganjisarjn. To Ganjisar Sump	PVC	140mm	864		
	Lotiyajn. To Thikariya Sump	PVC	110mm	2635		
	Lodra Jn. To Lodra Sump	PVC	110mm	540		
	Boruda Tapping to Boruda sump	PVC	110mm	1095		
	Daisar h w to Daisar sump	PVC	110mm	1326		
	Ganjisarjn. To Ganjisar Sump	PVC	110mm	900		
	Panvi Jn. To Panvi Sump	PVC	90mm	1228		
					45966.00	Rmt.
8	MOTI PIPALI HW					
	Moti pipli to Zhanjhansarjn.	PVC	250mm	7308		
	Moti PipaliHw to Kolivada	PVC	250mm	6908		
	koliwadajn to zanzasar	PVC	200mm	2945		
	Moti PipaliHw to Nani Pipali Jn	PVC	200mm	3019		
	Zanjhansar to Zekda Village	PVC	180mm	3780		
	Moti pipalihw to Sarkarpura Village	PVC	160mm	1758		
	Moti Pipali to Kalyanpura	PVC	140mm	2988		
	zanzasarjn to zanzasar sump	PVC	110mm	1326		
	Kalyanpura Jn to Kalyanpura Sump	PVC	110mm	744		
	Delana Ext. to Delana sump	PVC	110mm	1500		
	Nani Pipali Jn to UndargadhaVandhiya Village	PVC	110mm	3068		
	Kalyanpurajn. To Gamdi	PVC	90mm	1842		
	Nani Pipali Jn to Nani Pipali Village	PVC	90mm	330		
					37516.00	Rmt.
9	GOTARKA HW					
	Gotarka Ext. to Gotarka HW	PVC	250mm	690		
	Gotarka to Gulabpura Village	PVC	180mm	4825		
	Gotarka to Dehgam Village	PVC	160mm	2650		

	Gotarka HW to Dholakda Jn	PVC	160mm	942		
	Dholakda Existing to dholakda sump	PVC	160mm	1566		
	Dholakda Jn to Existing	PVC	160mm	3100		
	Dehgamjn. to Dehgam Village	PVC	140mm	90		
	Gotarka to Hamirpura Village	PVC	140mm	1819		
	Gotarka HW to Chhaniyathar Ext.	PVC	140mm	630		
	Gotarka HW to Gotarka Village sump	PVC	140mm	534		
	Gulabpura Jn. To Gulabpura Sump	PVC	110mm	330		
	Gulabpura Jn. To Rameshwar Sump	PVC	110mm	1470		
	Hamirpurajn to Hamirpura sump	PVC	110mm	1160		
	Dehgam Jn to Hirapura	PVC	110mm	940		
					20746.00	Rmt.
	Total Length			324672.50	324672.50	Rmt.
					324.67	Km

Pipeline Details

Santalpur Section

Sr no.	Section	Type Of Pipe	Type of Material	Size of Pipe (In)	Pipe Section	Total Length in Meters	Total Length in KM
1		MS	Metalic	1067	NMC to RanakpurInatake&InterConnectionPipeLine	800	0.80
2	Satun H/W to Santalpur H/W, and Sub headwork Connectivity	MS	Metalic	914	Satun to Santalpur H/W	1500	1.50
3		DI	Metalic	600	Satun to Santalpur H/W	44910	44.91
		DI	Metalic	450	Main line to Sidhada H/W	235	0.23
		DI	Metalic	450	sidhadahw to Main Line	329	0.32
4		DI	Metalic	400	Main line to Varahi H/W	775	0.78
5		DI	Metalic	300	Varahi H/W to Abiyana H/W	12000	12.00
6		DI	Metalic	300	Sidhada H/W to Zazam H/W Pumping	18500	18.50

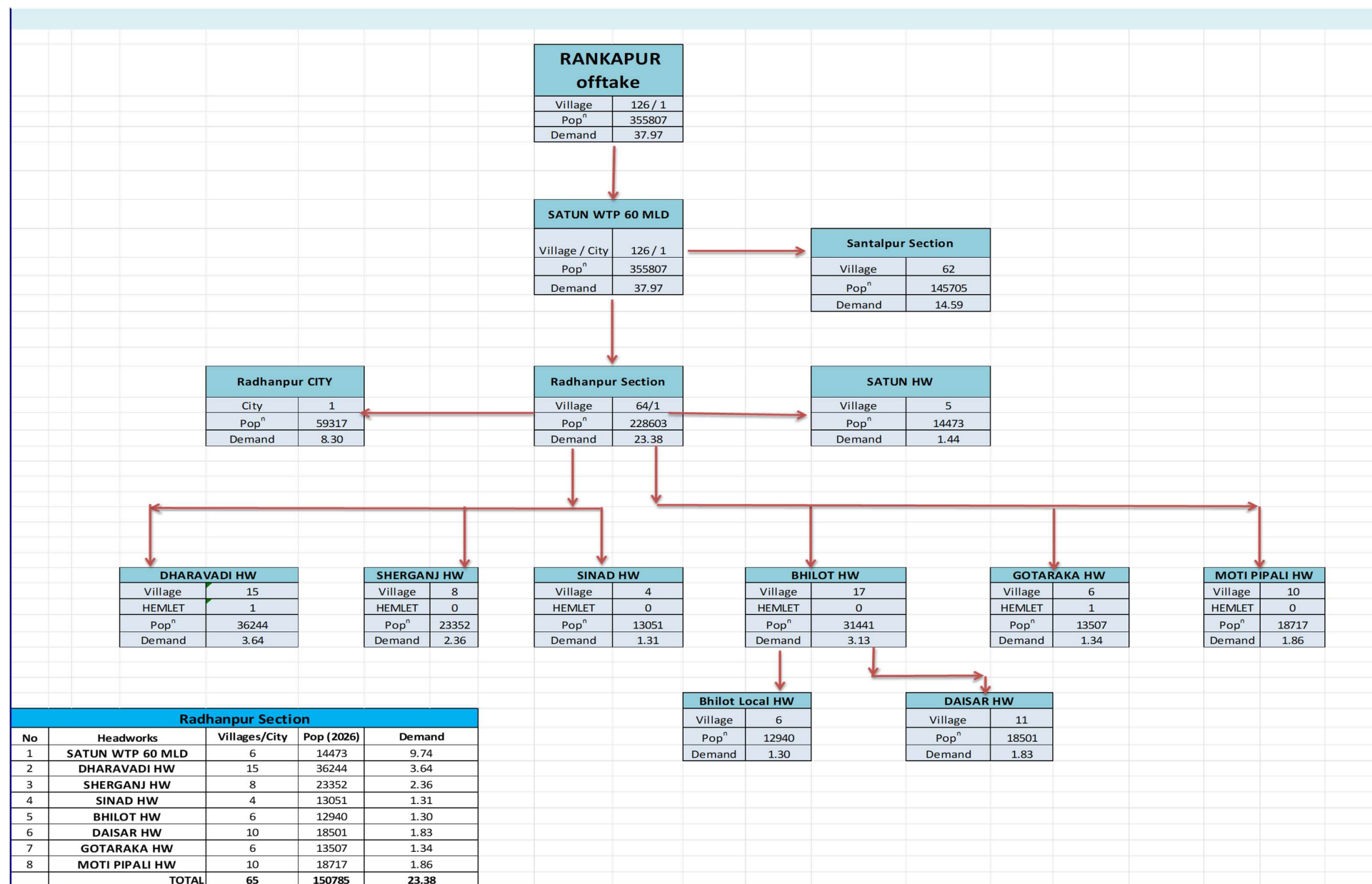
7		DI	Metalic	300	Main Line to Sidhada H/W	245	0.25
8		DI	Metalic	350	Main line to Kalyanpura H/W	2000	2.00
9		DI	Metalic	200	Kalyanpura H/W to Dhokavada H/W	8000	8.00
					Total=	89294	89.28
11	1.Varahi H/W to Navagam	DI	Metalic	315	Varahi H/W to B/F Navagam	3000	3.00
12		PVC	Non-Metalic	140	B/F Navgam to Navagam	500	0.50
13	2.Varahi H/W to Joravargadh	PVC	Non-Metalic	200	Varahi H/w to B/F Sadpura	3500	3.50
14		PVC	Non-Metalic	140	B/F Sadpura to Sadpura	1000	1.00
15		PVC	Non-Metalic	110	B/F Sadpura to Joravargadh	2500	2.50
16	3.Varahi H/W to Rampura	PVC	Non-Metalic	250	Varahi H/W to B/F Fulpura	4500	4.50
17		PVC	Non-Metalic	110	B/F Fulpura to Fulpura	1000	1.00
18		PVC	Non-Metalic	250	B/F Fulpura to B/F Gadha	4500	4.50
19		PVC	Non-Metalic	200	B/F Fulpura to B/F Gadha	3000	3.00
20		PVC	Non-Metalic	140	B/F Gadha to Gadha	500	0.50
21		PVC	Non-Metalic	110	B/F Gadha to Rampura	2000	2.00
22	4.Varahi H/W to Jarusha	PVC	Non-Metalic	200	Varahi H/W to B/F Manpura	4000	4.00
23		PVC	Non-Metalic	110	B/F Manpura to Manpura	1500	1.50
24		PVC	Non-Metalic	200	B/F Manpura to B/F Sherpura	2500	2.50
25		PVC	Non-Metalic	110	B/F Sherpura to Sherpura	1000	1.00
		PVC	Non-Metalic	110	Jarusa Bore to Sump	300	0.30
26		PVC	Non-Metalic	160	B/F Sherpura to Jarusha	3000	3.00
27	5. Varahi H/W to Korda	PVC	Non-Metalic	315	Varahi H/W to B/F Unrot	10000	10.00
28		PVC	Non-Metalic	90	B/F Unrot to Unrot	1000	1.00
29		PVC	Non-Metalic	315	B/F Unrot to B/F Dabhi	2000	2.00
30		PVC	Non-Metalic	90	B/F Dabhi to Dabhi	1000	1.00

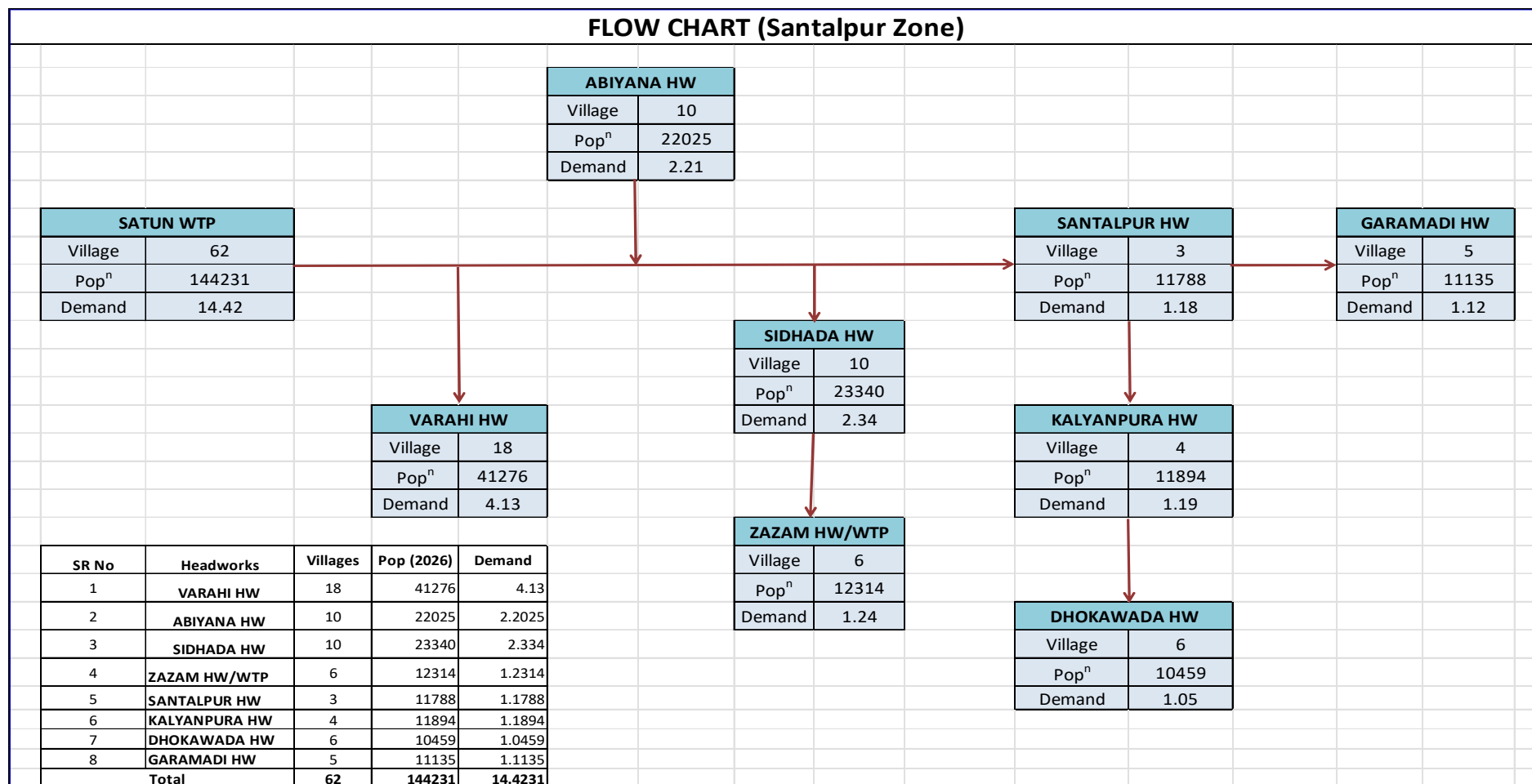
31		PVC	Non-Metalic	250	B/F Dabhi to Korda	4000	4.00
32	6. Varahi H/w to Varahi	PVC	Non-Metalic	90	Varahi H/W to varahi	1000	1.00
		PVC	Non-Metalic	90	Varahi Bore to Sump	200	0.20
33		PVC	Non-Metalic	315	Navgam to B/F Lakhapura	5500	5.50
34	7.Varahi H/W to Vaghpura	PVC	Non-Metalic	90	B/F Lakhapura to Lakhapura	3000	3.00
35		PVC	Non-Metalic	200	B/F Lakhapura to B/F Kamalpura	1500	1.50
36		PVC	Non-Metalic	90	B/F Kamalpura to Kamalpura	1000	1.00
37		PVC	Non-Metalic	160	B/F Kamalpura to B/F Naliya	3000	3.00
38		PVC	Non-Metalic	90	B/F Naliya	1000	1.00
39		PVC	Non-Metalic	180	B/F Gokhantar	4500	4.50
40		PVC	Non-Metalic	110	B/F Naliya to Vaghpura	2500	2.50
					Total (Varahi Group) =	79500	79.50
41	1.Abiyana H/W to Limbgamda	PVC	Non-Metalic	200	Abiyana H/W to B/F Limgamda	5000	5.00
42		PVC	Non-Metalic	90	B/F Limgamda	500	0.50
43		PVC	Non-Metalic	90	B/F Limgamda to GokhantarGamdi	4000	4.00
		PVC	Non-Metalic	110	Abiyana Bore to Sump	100	0.10
44	1. Abiyana H/W to Unadi	PVC	Non-Metalic	160	Abiyana H/W to B/F Lunichana	1500	1.50
45		PVC	Non-Metalic	110	B/F Lunichana to Lunichana	500	0.50
46		PVC	Non-Metalic	140	B/F Lunichana to Unadi	1300	1.30
47	2.Abiyana H/W to Karsangadh	PVC	Non-Metalic	180	Abiyana H/W to B/F Agichana	3000	3.00
48		PVC	Non-Metalic	140	B/F Agichana to Agichana	200	0.20
49		PVC	Non-Metalic	110	B/F Agichana to B/F Joravarganj	500	0.50
50		PVC	Non-Metalic	110	B/F Joravarganj to Joravarganj	4500	4.50
51		PVC	Non-Metalic	90	B/F Joravarganj to Karsangadh	2000	2.00
52	3.Abiyana H/W to Vadlithar	PVC	Non-Metalic	315	Abiyana H/W to B/F Pedashpura	6500	6.50
53		PVC	Non-Metalic	110	B/F Pedaspura to Pedashpura	500	0.50

		PVC	Non-Metalic	90	Pedaspura Bore to Pedaspura main line	300	0.30
54		PVC	Non-Metalic	250	B/F Pedaspura to B/F Gadsai	2000	2.00
55		PVC	Non-Metalic	110	B/F Gadsai to Gadsai	500	0.50
56		PVC	Non-Metalic	180	B/F Gadsai to Bismillaganj	3500	3.50
57		PVC	Non-Metalic	90	B/F Bismillaganj to Amrapura	3500	3.50
58		PVC	Non-Metalic	90	B/F Amrapur to Amrapura	2000	2.00
59		PVC	Non-Metalic	140	B/F Amrapur to Vadlithar	800	0.80
					Total (Abiyana Group) =	42700	42.70
60	1. Zazam H/W to Zazam	PVC	Non-Metalic	110	Zazam H/W to Zazam	1000	1.00
61	2.Zazam H/W to Fangli	PVC	Non-Metalic	140	Zazam H/W to Fangli	7000	7.00
62	3.Zazam H/W to Jamvada	PVC	Non-Metalic	180	Zazam H/W to B/F Varnosari	2500	2.50
63		PVC	Non-Metalic	110	B/F Varnosari to Varnosari	1000	1.00
64		PVC	Non-Metalic	160	B/F Varnosari to B/F Vavdi	500	0.50
		PVC	Non-Metalic	200	jamvada lake to zazam line	250	0.25
65		PVC	Non-Metalic	90	B/F Vavdi to Vavdi	3000	3.00
66		PVC	Non-Metalic	140	B/F Vavdi to Jamvada	2000	2.00
67	4.Zazam H/W to Kilana	PVC	Non-Metalic	160	Zazam H/W to Kilana	6500	6.50
					Total (Zazam Group) =	23750	23.75
68	1.Sidhada H/W to Bamroli	PVC	Non-Metalic	160	Sidhada H/W to Bamroli	6000	6.00
69	2.Sidhada H/W to Daldi	PVC	Non-Metalic	90	Sidhada H/W to B/F Sidhada	1000	1.00
70		PVC	Non-Metalic	90	B/F Sidhada to Sidhada	500	0.50
71		PVC	Non-Metalic	180	B/F Sidhada to B/F Patanka	1000	1.00
72		PVC	Non-Metalic	110	B/F Patanka to Patanka	6000	6.00
73		PVC	Non-Metalic	160	B/F Patanka to Daldi	1000	1.00
74		PVC	Non-Metalic	200	Sidhada H/W to B/F Babra	10000	10.00
74	3.Sidhada H/W to Bavarda	PVC	Non-Metalic	160	Sidhada H/W to B/F Babra	10000	10.00

75		PVC	Non-Metalic	160	B/F Babra to Babra	2000	2.00
76		PVC	Non-Metalic	160	B/F Babra to Bavarda	1500	1.50
77	4.Sidhada H/W to Madhupura	PVC	Non-Metalic	315	Sidhada H/W to B/F Daigamda	3500	3.50
78		PVC	Non-Metalic	90	B/F Daigamda to Daigamda	500	0.50
79		PVC	Non-Metalic	250	B/F Daigamda to B/F Chhansara	2500	2.50
80		PVC	Non-Metalic	160	B/F Chhansara to Chhansara	4500	4.50
81		PVC	Non-Metalic	250	B/F Chhansara to B/F Parsund	100	0.10
82		PVC	Non-Metalic	110	B/F Parsund to Parsund	1000	1.00
83		PVC	Non-Metalic	90	Parsund to Bhupatnagar	1000	1.00
84		PVC	Non-Metalic	200	B/F Parsund to B/F Anternes	8000	8.00
85		PVC	Non-Metalic	90	B/F Ranisar to Ranisar	1000	1.00
86		PVC	Non-Metalic	90	Antarnes to Madhupura	2000	2.00
87		PVC	Non-Metalic	90	Madhupura to Sartanpura	2000	2.00
					Total (Sidhada Group) =	65100	65.10
88	1. Santalpur H/W to Par	PVC	Non-Metalic	160	Santalpur H/W to Par	3500	3.50
89	2. Santalpur H/w To Santalpur	PVC	Non-Metalic	160	Santalpur H/w To Santalpur	500	0.50
90	3. Santalpur H/W to Garamadi H/W	DI	Metalic	300	Santalpur H/W to Garamadi H/W	6500	6.50
91	4. Santalpur H/W to Salt Colony	PVC	Non-Metalic	110	Santalpur H/W to B/F Chhor	1600	1.60
92		PVC	Non-Metalic	90	B/F Chhor to Chhor	500	0.50
93		PVC	Non-Metalic	160	Santalpur H/W to Rajusara	8000	8.00
94		PVC	Non-Metalic	90	Rajusara to Salt Colony	2000	2.00
					Total (Santalpur Group) =	22600	22.60
95	1. Garamadi H/W to Madhutra	PVC	Non-Metalic	200	Garamadi H/W to Madhutra	5500	5.50
96	2. Garamadi H/W to Rozu	PVC	Non-Metalic	110	Garamadi H/W to Rozu	5000	5.00
97	3. Garamadi H/W to Piparala	PVC	Non-Metalic	180	Garamadi H/W to Piparala	11000	11.00

98	3. Garamadi H/W to Garamadi	PVC	Non-Metalic	110	Garamadi H/W to Garamadi	2000	2.00
					Total (Garamadi Group) =	23500	23.50
99	1. Kalyanpura H/W to Bakutra	DI	Metalic	150	Kalyanpura H/W to Bakutra	4300	4.30
100	2. Kalyanpura H/W to Vauva	PVC	Non-Metalic	315	Kalyanpura H/W to Datrana	6500	6.50
101		PVC	Non-Metalic	250	Datrana to Vauva	4500	4.50
102	3. Kalyanpura H/W to Ranamalpura	PVC	Non-Metalic	110	Kalyanpura H/W to Ranamalpura	4500	4.50
103	4. Kalyanpura H/W to Kalyanpura	PVC	Non-Metalic	110	Kalyanpura H/W to Kalyanpura	2000	2.00
103	5. Ranpura lake to Kalyanpura	PVC	Non-Metalic	200	Ranpura lake to Kalyanpura	1600	1.60
					Total (Kalyanpura Group) =	23400	23.40
104	1. Dhokawada H/W to Aluvas	DI	Metalic	110	Dhokawada H/W to Aluvas	6500	6.50
105	2. Dhokawada H/W to Charanka	DI	Metalic	200	Dhokawada H/W to Charanka	7000	7.00
106	3. Dhokawada H/W to Eval	DI	Metalic	150	Dhokawada H/W to Eval	5000	5.00
107	4. Dhokawada H/W to Jakhotra	PVC	Non-Metalic	160	Dhokawada H/W to Jakhotra	7500	7.50
108	5. Dhokawada H/W to Barara	PVC	Non-Metalic	140	Dhokawada H/W to Barara	3000	3.00
109	6. Dhokawada H/W to Dhokawada	PVC	Non-Metalic	110	Dhokawada H/W to Dhokawada	500	0.50
					Total (Dhokawada Group) =	29500	29.50
					Grand Total=	399344	399.33





ANNEXURE-IX ASSET LIST & STATUS

Electro-Mechanical						
Sr No	Equipment	Headwork	Location/ section	Make/ Brand	Specifications/ Capacity	Equipment status ((O) Operational, (R) Minor repairs, (D) Defunct
Radhanpur Section						
1	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Satun HW	Radhanpur	Kirloskar	95 LPS, 23 Mtr Head, 37 KW (2W+1S.By)	Operational
			Moti Pimpili		67 LPS, 35 Mtr Head, 37 KW (2W+1S.By)	
			Dharavadi		70 LPS, 38 Mtr Head, 45 KW (2W+1S.By)	
			Santalpur		146 LPS, 53 Mtr Head, 110 KW (2W+1S.By)	
			Satun ESR		60 LPS, 35 Mtr Head, 37 KW (1W+1S.By)	
2	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	dharavadi HW	dharavadi ESR 1	Kirloskar	50 LPS, 34 Mtr Head, 30 KW (1W+1S.By)	Operational
			dharavadi ESR 2	Kirloskar	55 LPS, 34 Mtr Head, 30 KW (1W+1S.By)	Operational
3	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Sinad HW	Sinad ESR	Kirloskar	55 LPS, 33 Mtr Head, 30 KW (1W+1S.By)	Operational
4	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Serganj HW	Serganj ESR 1	Kirloskar	50 LPS, 34 Mtr Head, 30 KW (1W+1S.By)	Operational
			Serganj ESR 2	Kirloskar	35 LPS, 34 Mtr Head, 22 KW (1W+1S.By)	Operational

5	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Bhilot HW	Bhilot ESR 1	Kirloskar	55 LPS, 33 Mtr Head, 30 KW (1W+1S.By)	Operational
			Bhilot ESR 2	Kirloskar	30 LPS, 70 Mtr Head, 37 KW (2W+1S.By)	Operational
6	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Moti Pimpali HW	Moti Pimpali ESR	Kirloskar	25 LPS, 33 Mtr Head, 15 KW (2W+1S.By)	Operational
7	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Gotaraka HW	Gotaraka ESR	Kirloskar	60 LPS, 33 Mtr Head, 30 KW (1W+1S.By)	Operational
8	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Ranakpur HW	satunwtp	VT: Flowmore (3 nos) & WPIL (1 no.)	For VT Pump: 362 LPS, 65 Mtr Head, 315 KW (2W+2S.By) + For SCF Pump: 347 LPS,33 mtr Head,150 KW (1W+0S.By)	Operational
				Aqua make	For Polder Pump:362 LPS, 65 Mtr Head, 315 KW (2W+2S.By)	Operational
Santalpur Section						
1	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Varahi HW	Varahi	Flowmore Limited (Gaziyaabad)	58.33 LPS, 42.5 Mtr Head, 37 KW (2W+1S.By) +1 Tube Well with Machinery	Operational
			Varahi		61.11 LPS, 42.5 Mtr Head, 37 KW (1W+1S.By)	Operational
2	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Abiyana HW	Abiyana	Flowmore Limited (Gaziyaabad)	40.55 LPS, 37 Mtr Head, 22 KW (2W+1S.By) +1 Tube Well with Machinery	Operational
3	List of pump sets, panels, circuit breakers, starters,	Sidhada HW	Sidhada	Flowmore Limited (Gaziyaabad)	34.72 LPS, 42Mtr Head, 22 KW (2W+1S.By)	Operational

	Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.		Sidhada		26.11 LPS, 43Mtr Head, 18.5 KW (1W+1S.By)	Operational
			Sidhada		33 LPS, 34Mtr Head, 18.5 KW (1W+1S.By)	Operational
			Sidhada Boosting	Proposed	83.33 LPS, 30 Mtr Head, 37 KW, 2W + 2S	Proposed
4	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Santalpur HW	Santalpur	Flowmore Limited (Gaziyabad)	47.22 LPS, 45Mtr Head, 37 KW (1W+1S.By)	Operational
			Santalpur		30 LPS, 20Mtr Head, 9.3 KW (1W+1S.By)	Operational
		Santalpur	Canal		34 Mtr Head, 18.5 KW, 8.61 LPS	Operational
5	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Garamadi EW	Garamadi	Flowmore Limited (Gaziyabad)	22.22 LPS, 58Mtr Head, 22 KW (2W+1S.By)	Operational
6	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Kalyanpura HW	Kalyanpura	Flowmore Limited (Gaziyabad)	49.44 LPS, 41Mtr Head, 30 KW (1W+1S.By)	Operational
			Kalyanpura		14.16 LPS, 51Mtr Head, 15 KW (1W+1S.By)	Operational
			Kalyanpura		28.88 LPS, 71Mtr Head, 37 KW (1W+1S.By)	Operational
			Kalyanpura Canal		8.12 LPS, 34 mtr head, 18.5 KW (1W+1S)	Operational
7	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Dhokavada HW	Dhokavada	Flowmore Limited (Gaziyabad)	26.11 LPS, 36Mtr Head, 18.5 KW (1W+1S.By)	Operational
			Dhokavada		17.22 LPS, 32Mtr Head, 11 KW (1W+1S.By)	Operational
			Dhokavada		14.16 LPS, 40Mtr Head, 11 KW (1W+1S.By)	Operational
8	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Zazam HW	Zazam	Flowmore Limited (Gaziyabad)	49.16 LPS, 42Mtr Head, 30 KW (1W+1S.By)	Operational
9	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Madhutra Canal	Madhutra		34 Mtr Head, 18.5 KW, 8.61 LPS	Operational
10	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Pedashpura TW	Pedashpura		198 Mtr Head, 13.33 LPS, 45 KW (1S)	Operational
11	List of pump sets, panels, circuit breakers, starters, Transformer, DG set, Dewatering sets & Other Ele-Mech Accessories Installed at H.W.	Jarusha TW	Jarusha		162 Mtr Head, 13.33 LPS, 37 KW (1S)	Operational

Electromechanical items will include all electrical and mechanical equipment such as, motors, pumps, panels, starters, breakers, dosing device, lifting devices, Clariflocculator bridge, transformer, valves, gates etc.

Abstract of Asset Inspection Report

O&M Package Name					
Scheme Name					
Division					
Subdivision					
Sl. No.	Asset Name & description	Location	Issue	Scope of corrective action	If new agency, inclusion in Part C of Price Schedule B
				Existing agency/ new agency	
1					
2					

Name & Signature of DEE_____
Name of Subdivision_____
Date of inspection_____
Name & Signature of EE, Date

ANNEXURE-X CITIZEN GRIEVANCE LOGS

<provide 1916 complaints of all villages of the schemes for last 6 months. The logs shall be anonymous and no personal data shall be mentioned>

Sl. No.	Village Name	Taluka	Nature of Complaint	Sub-nature of complaint	Total count
1	GARAMBDI	SANTALPUR	Service level	No Water Supply	
2	ROZU	SANTALPUR	Service level	Less Water Supply	
3	ROZU	SANTALPUR	Service level	Less Water Supply	
4	GARAMBDI, MADHUTRA, PIPARALA, ROZU, VAUVA	SANTALPUR	Service level	No Water Supply	
5	BAKUTRA, BARARA, RAJUSARA, SANTALPUR, VAGHPURA	SANTALPUR	Leakage	Leakage in Pipeline - Upto Sump (for RWSS)	
6	LAKHAPURA	SANTALPUR	Leakage	Leakage in Pipeline - Upto Sump (for RWSS)	
7	JAKHOTRA	SANTALPUR	Service level	No Water Supply	
8	JAKHOTRA	SANTALPUR	Service level	No Water Supply	
9	ALUVAS	SANTALPUR	Service level	No Water Supply	
10	JAKHOTRA	SANTALPUR	Service level	Less Water Supply	
11	GOKHANTAR	SANTALPUR	Service level	No Water Supply	
	Total				(sum)

ANNEXURE-XI INSURANCE

Insurance against Injury to Persons and Damage to Property;

The Contractor shall insure against each liability for any loss, damage, death or bodily injury which may occur to any physical property (mechanical, electrical, automation work, all civil works, Storage etc. excluding pipe line) or to any person which may arise out of the Contractor's performance of his obligations under these Conditions during the O&M Period.

This insurance shall be for a limit of per occurrence of not less than the amount of Rs. 5 Lacs, with no limit on the number of occurrences.

Payment made as per actual expense done by contractor after receipt of Insurance policy. Payment will be made as per the actual amount paid or the as per schedule-B whichever is less.

Insurance for Contractor's Personnel;

The Contractor shall affect and maintain insurance against liability for arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.

The Employer shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.

Contractor shall have to take insurance for Electrical, Mechanical and instrumentation equipment under these packages and whereas the insurance of other components like sump, pump house, pipeline will be optional. This General Insurance for the work will be in the name of GWSSB. The depreciated value is considered **Rs.3435.53 lac** for the purpose of insurance for respective year. The insurance for skilled, semi-skilled and unskilled labour is compulsory. The same should be taken by agency as per labour act laws in force.

NAME OF SCHEME: RADHANPUR & SANTALPUR RWSS TA: RADHANPUR, SANTALPUR, DIST: PATAN			
Schedule: B (Part -A. 4 Insurance Charges)			
Sr. No.	Item Description	Amount	
		Radhanpur	Santalpur
1	All risk insurance provision for WTP & all Civil Structures for Main HW / SHW / Store/ office & above mention & entire electrical mechanical items to be installed at P. S	75,770.00	32,090.00
2	All risk insurance provision for electrical mechanical items to be installed at P. S	31,700.00	16,970.00
3	All risk insurance provision for Establishment to be deployed at Main HW / SHW / Store/ office for	50,520.00	42,900.00
	Total=	1,57,990.00	91,960.00
		1st Year=	2,49,950.00
		2nd year=	2,64,947.00
		3rd year=	2,80,844.00
		4th Year=	2,97,694.00
		5th year=	3,15,556.00

NAME OF SCHEME: RADHANPUR&SANTALPUR RWSS TA: RADHANPUR, SANTALPUR, DIST: PATAN		
Schedule: B (Part -A.4.1 Insurance for Structure)		
Sr. No.	Item	All Risk InsuranceDepreciatedValue
A	All risk insurance provision for WTP & all Civil Structures for Main HW / SHW / Store/ office & above mention & entire electrical mechanical items to be installed at P. S	
	Radhanpur Subdivision	
1	DHARAVADI HW	
a	ESR 5 Lac, 25 Mt ht. 1 Nos	48,03,359.28
b	ESR 2.5 Lac, 20 Mt ht. 1 Nos	35,51,496.72
e	Pump Room	7,18,200.00
f	Pump Room- 150 Sqmt.	22,29,210.00
2	SINAD SUB H.W.	
a	ESR 5 Lac, 15 Mt ht. 1 Nos	40,88,359.28
c	Pump Room	5,96,953.98
3	SHERGANJ SUB H.W.	
a	ESR 5 Lac, 25 Mt ht. 1 Nos	42,99,510.40
b	ESR 2.5 Lac, 25 Mt ht. 1 Nos	30,07,017.60
e	Pump Room	3,94,617.60
g	Pump Room- 120 Sqmt.	17,83,368.00
4	SATUN WTP/SUB H.W.	
a	60 MLD WTP	6,57,44,301.00
d	ESR 3.0 Lac, 20 Mt ht. 1 Nos	39,89,536.72
e	Pump Room- 600 Sqmt.	89,26,146.00
5	BHILOT SUB H.W.	
a	ESR 5.0 Lac, 20 Mt ht. 1 Nos	49,12,208.15
c	Pump Room	6,93,236.88
e	Pump Room- 150 Sqmt.	22,29,210.00
6	MOTI PIMPALI SUB H.W.	
a	ESR 3 Lac, 25 Mt ht. 1 Nos	36,48,262.48
c	Pump Room 120 Sqmt.	9,19,591.20
7	DAISAR SUB H.W.	
a	ESR 5 Lac, 20 Mt ht. 1 Nos	58,33,984.22
8	GOTARAKA SUB H.W.	
a	ESR 3 Lac, 20 Mt ht. 1 Nos	40,53,199.54
c	Pump Room 80 Sqmt.	11,88,912.00
9	RANAKPUR INTEK WELL	
a	Under Ground Sump 75 Lac Lit.	1,46,37,046.25
b	Pump Room-400 Sqmt.	60,39,420.00
c	Staff Quarters - 2 Nos.	30,44,528.40
	Total Radhanapur Section	15,13,31,675.69

	Varahi Subdivision	
1	VARAHI SUB H/W	
a	ESR 10 Lac Lit, 18 Mt Ht.	66,01,383.44
c	Store Room (1) 17 X9 (2) 20 X 9	19,25,872.20
e	ESR 5 Lac Lit, 20 Mt Ht.	40,01,319.02
f	Pump Room-150 Sqmt.	12,80,610.00
2	SIDHADA SUB H/W	
a	ESR 1.5 Lac Lit- 28 Mt Ht.	13,14,593.52
e	ESR 5 Lac Lit, 25 Mt Ht.	41,73,256.52
f	Pump Room - 150 Sqmt.	12,80,610.00
3	SANTALPUR SUB H/W	
a	ESR 3 Lac Lit- 28 Mt Ht.	28,24,667.85
d	Pump House 100 Sqmt.	8,19,590.40
f	Pump Room-150 Sqmt.	12,80,610.00
4	KALYANPURA SUB H/W	
a	ESR 4 Lac Lit- 21 Mt Ht.	34,61,327.85
d	Pump House -48 Sqmt.	8,19,590.40
f	Pump Room- 120 Sqmt.	10,24,488.00
5	DHOKAVADA SUB H/W	
a	ESR 2 Lac Lit-12 Mt Ht.	20,70,107.85
b	ESR 3 Lac Lit- 18 Mt Ht.	24,57,212.85
e	Pump Room- 150 Sqmt.	12,80,610.00
6	GARAMADI SUB H/W	
a	ESR 2 Lac Lit- 28 Mt Ht.	21,87,988.20
d	Pump Room- 100 Sqmt.	8,53,740.00
7	ABIYANA SUB H/W	
b	Pump House Existng T.W.	5,29,200.00
c	ESR 5 Lac Lit, 20 Mt Ht.	40,01,319.02
d	Pump Room-100 Sqmt.	8,53,740.00
8	ZAZAM WTP	
a	6 MLD WTP	52,26,805.68
c	ESR 5 Lac Lit, 25 Mt Ht.	41,73,256.52
d	Pump Room- 72 Sqmt.	6,30,060.12
12	Chlorination Palnt	31,08,200.00
13	Office Building	56,95,557.28
	Total Santalpur Section =	6,38,75,716.72

NAME OF SCHEME: RADHANPUR&SANTALPUR RWSS TA: RADHANPUR, SANTALPUR, DIST: PATAN		
Schedule: B (Part -A.4.2 Pumping Machinery & all Type electrical)		
Radhanpur Section		
Sr. No.	Item	All Risk InsuranceDepreciatedValue
A	All risk insurance provision for entire electrical mechanical items to be installed at P. S	
1	Satun WTP	
1	Pump Motor Assembly set	15220000.00
2	Valves, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
5	Transformer (11/3.3 KV)	
6	11 KV HV switch Gear Panels (VCB)	
7	Capacitor Banks Panel	
8	MCC Panels	
9	Switchyard, H V Power & Control cables & Lighting & Earthing & Fire safety & with All Accessories.	
2	Dharavadi HW	
1	Pump Motor Assembly set	3000000
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
3	Sinad HW	
1	Pump Motor Assembly set	1200000
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
4	Sherganj	
1	Pump Motor Assembly set	2080000
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
5	Bhilot & Dahisar	
1	Pump Motor Assembly set	4420000
2	Valves, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
5	Transformer (11/3.3 KV)	
6	11 KV HV switch Gear Panels (VCB)	
7	Capacitor Banks Panel	
8	MCC Panels	
9	Switchyard, H V Power & Control cables & Lighting & Earthing & Fire safety & with All Accessories.	

6	Moti Pimpili	
1	Pump Motor Assembly set	900000
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
7	Gotaraka	
1	Pump Motor Assembly set	1200000
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
8	RANAKPUR INTAKEWELL H/W	33759638.55
1	Pump Motor Assembly set	23984730.33
2	Valves, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
5	Transformer (11/3.3 KV)	
6	11 KV HV switch Gear Panels (VCB)	
7	Capacitor Banks Panel	
8	MCC Panels	
9	Switchyard, H V Power & Control cables & Lighting & Earthing & Fire safety & with All Accessories.	
10	Ranakpur Canal Pump	6607439.17
11	Ranakpur 4th VT Pump	3167469.05
Santalpur Section		
1	VARAHI H/W	
1	Pump Motor Assembly set	4695423.40
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
2	ABIYANA H/W	
1	Pump Motor Assembly set	1675124.02
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
3	SIDHADA H/W	
1	Pump Motor Assembly set	3553293.38
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	

3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
6	Boosting HW (Prospective)	7483701.00
4	ZAZAM WTP	
1	Pump Motor Assembly set	1522840.02
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
6	Ranmalpura Pond (Prospective)	3491664.00
5	SANTALPUR H/W	
1	Pump Motor Assembly set	2350249.77
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
6	Santalpur to Kalyanpura HSCF	182094.80
6	KALYANPURA H/W	
1	Pump Motor Assembly set	2284260.03
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
6	Kalyanpura to Dhokawada HSCF	632244.00
7	DHOKAVADA H/W	
1	Pump Motor Assembly set	2055834.03
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
8	GARAMADI H/W	
1	Pump Motor Assembly set	1675124.02
2	Valve, Expansion Bellows & Electro-magnetic flowmeter.	
3	Pipes & Specials	
4	MCC Panels	
5	Switchyard, H V Power & Control cables & Lighting & Earthing & Flowmeter & with All Accessories.	
9	Tubewell & Sump M/C Repairing	2204531.36
	Total=	128345660.93

NAME OF SCHEME: RADHANPUR&SANTALPUR RWSS TA: RADHANPUR, SANTALPUR, DIST: PATAN			
Schedule: B (Part -A.4.3 Insurance for Labor)			
Sr.No.	Item	Section	All Risk InsuranceDepreciatedValue
1	All risk insurance provision for Establishment to be deployed at Main HW / SHW / Store/ office For		
a	Total Manpower Cost for	Radhanpur	10104000.00
b	all required personnel for one month	Santalpur	8580000.00

ANNEXURE-XII SAFETY CONSIDERATIONS**SAFETY ABSTRACT FROM CPHEEO****Storage and Handling of Chlorine cylinders**

Chlorine is stored in special grade steel containers. As per IS:4379-1967, the colour of Chlorine container should be 'golden yellow'. Further, during O&M the agency shall ensure following safety precautions. This is not an exhaustive list and the agency's scope shall not be limited to the activities mentioned below.

Maintenance of chlorine storage area

1. Obtain storage licence from controller of explosives under Gas Cylinder Rules 1981 if the quantity of Cl₂ containers to be stored is more than 5 Nos.
2. Storage area should be cool, dry, well ventilated, and clean of trash and protected from external heat sources. Please refer to Manual on "Water Supply and Treatment", (1999 Edition), for further details.
3. Ventilation must be sufficient to prevent accumulation of vapour pockets. The exhaust should be located either near the floor or duct be provided extending to the floor. All fan switches should be outside the storage area.
4. Do not store container directly under the sun.
5. Weather cock should be installed near the storage to determine wind direction.
6. Ensure adequate egress (exit) paths (at least two)
7. Neutralization system should be provided.
8. Continuous monitoring of chlorine leak detection equipment with alarm should be installed in the storage area.
9. The area should be free and remote from elevators, gangways or ventilating system to avoid dangerous concentration of Chlorine during leak.
10. Two portable foam type fire extinguishers should be provided in the premises.
11. Corrosive substances shall not be stored nearby which react violently with each other.
12. Unauthorized person should not be allowed to enter into the storage area.
13. Ensure that all containers are properly fitted with safety caps or hooks.

Loading/Unloading of Containers

1. The handling of containers should be done under the supervision of trained and competent person.
2. It should be done carefully with a crane, hoist or slanted ramp. Do not use magnet or sharp object for lifting the containers.
3. Small cylinders should not be lifted by means of valve caps as these are not designed to carry the weight.
4. The containers should not be allowed to strike against each other or against any hard object.
5. Vehicles should be braked and isolated against any movement.
6. After loading, the containers should be secured properly with the help of wooden wedges, rope or sling wire so that they do not roll away.
7. The containers should never be dropped directly to the ground or on the tyre from the vehicle.
8. There should be no sharp projection in the vehicle.
9. Containers must have valve caps and plugs fitted properly.
10. Check containers for leakage before loading/unloading.

Transportation of Containers

1. The name of the chemical along with diamond pictorial sign denoting the dangerous goods should be marked on the vehicle.
2. The name of the transporter, his address and telephone number should be clearly written on the vehicle.
3. The vehicle should not be used to transport any material other than what is written on it.

4. Only trained drivers and cleaners should transport hazardous chemical.
5. The driver should not transport any leaking cylinder.
6. The cylinder should not project outside the vehicle.
7. The transporter must ensure that every vehicle driver must carry "Trem Card" (Transport Emergency Card) and 'Instructions in writing booklet' and follow them.
8. Every driver must carry safety appliances with him, viz; Emergency kit, breathing apparatus etc.
9. The vehicles must be driven carefully, especially in crowded localities and on bumpy roads. Do not apply sudden brakes.
10. Check for the leakage from time to time.
11. In the case of uncontrollable leakage, the vehicle should be taken to an open area where there is less population.

Personal Protective Equipment

1. Breathing Apparatus

Various types of respirators and their suitability are as follows:

i. Self-contained breathing apparatus

This apparatus is equipped with a cylinder containing compressed oxygen or air which can be strapped on to the body of the user or with a canister which produces oxygen chemically when the reaction is triggered. This type of equipment is suitable for high concentration of chlorine in an oxygen deficient atmosphere.

ii. Air-line respirator: Air-line length 90 m. (max.)

It is suitable for high concentrations of chlorine provided conditions permit safe escape if air supply fails. This device is suitable in any atmosphere, regardless of the degree of contamination or oxygen deficiency, provided that clean, breathable air can be reached.

iii. Industrial Canister Type Mask: Duration: 30 min. for 1% Cl₂

It is suitable for moderate concentration of chlorine provided sufficient oxygen is present. The mask should be used for a relatively short exposure period only. If the actual chlorine concentration exceeds 1% by volume or oxygen is less than 16% by volume, it is not useful. The wearer in such cases must leave the place on detection of chlorine or experiencing dizziness or breathing difficulty.

Protective Clothing

Rubber, or PVC clothing is useful in massive exposure which otherwise creates mild skin burns due to formation of acid on the body.

Maintenance of Protective Equipment

1. Clean with alkali after every use.
2. Keep in polythene bag at easily accessible place.
3. Check them periodically about their suitability. Many times, the seal ring of face mask gets hardened.

Employees Training

It is essential to impart training to the employees who have to face emergency.

This training should include following:

- a) Instructions in the action to be taken in an emergency.
- b) Use of emergency kit.
- c) Handling of containers.
- d) First aid.
- e) Use of protective equipment.
- f) Knowledge of Chlorine hazards.

- g) Firefighting.
- h) Use of safety showers and eye fountains.
- i) Crash shut down procedure for valves and switches.
- j) Communication system.
- k) Study of plant layout with diagram.
- l) Mock drills.

List of safety systems at chlorination plant

- 1. Breathing apparatus.
- 2. Emergency kit.
- 3. Leak detectors.
- 4. Neutralisation tank.
- 5. Scrubber system.
- 6. Siren system.
- 7. Display of boards in local language for public cautioning, first aid and list of different authorities with phone numbers.
- 8. Communication system.
- 9. Tagging system for equipment.
- 10. First aid including tablets and cough mixtures.
- 11. Exhaust fans.
- 12. Testing of pressure vessels, chlorine lines etc. every year as per factory act.
- 13. Training & mock drill.
- 14. Safety showers.
- 15. Eye fountain.
- 16. Personal protective equipment.
- 17. Protecting hoods for ton-containers.
- 18. Fire extinguishers.
- 19. Wind cock.

Safety aspects for electrical components

Following safety precautions should be observed while working in a pump house.

- i. No electric live part shall be kept exposed. Particular care should be taken not to keep the motor terminals, starter door, panel door etc. in open condition.
- ii. Guard for pump – motor coupling and for extended shaft shall be provided.
- iii. Top cover of the VHS (vertical hollow shaft) motor shall not be unnecessarily kept in dismantled condition.
- iv. Helmet, gumboots, hand gloves, torch and emergency lamp etc. shall be provided to the workers.
- v. Shock proof rubber matting shall be kept in front of panel and starters.
- vi. Discharging devices shall also be provided to work safely on HT side of transformer.
- vii. Firefighting equipment suitable for electrical fire shall be provided. The fire extinguisher shall be thoroughly checked and recharged once in a year.
- viii. Damaged wooden flooring, damaged grating etc. shall be repaired on priority.
- ix. Safety railing shall be provided above all openings, unwallled edges of flooring and all such places vulnerable for falling or slipping of staff.
- x. First aid box shall be kept at visible and accessible place. The first aid box shall be checked once in a month and all used items shall be replenished.
- xi. Staff shall be trained in the following aspects to enhance safety awareness and skills to handle safety aspects.
 - Fire fighting
 - Safety procedures and practices in electrical work
 - First aid (general)
 - First aid for electric shock.

Following Indian Standards (IS) detail comprehensive guidelines for safety in electrical installation.

IS 5216 (Part I) – General

IS 5216 (Part II) – Life Saving Technique

IS 5216 (Part III) – Safety Posters

IS 5216 (Part IV) – Special guidance for safety in electrical work in hazardous areas.

Working at height

- Guard every floor hole into which a worker can accidentally walk (using a railing and toe-board or a floor hole cover).
- Provide a guard rail and toe-board around every elevated open sided platform, floor.
- Regardless of height, if a worker can fall into or onto dangerous machines or equipment (such as well, tanks etc.) employers must provide guardrails and toe-boards to prevent workers from falling and getting injured.
- Other means of fall protection that may be required on certain jobs include safety harness and line, safety nets, stair railings and handrails.

Safety consideration during painting

The following considerations must be kept in mind:

- When working with toxic paints i.e. containing lead, zinc or organics, be sure to clean your hands before eating or handling food.
- Avoid exposing your skin to solvent and thinners and try not to use compounds such as carbon tetrachloride.
- When spray painting, use a respirator to avoid inhaling fumes.
- No smoking or open flames of any kind should be allowed around the area being painted.
- When painting or cleaning the spraying equipment avoid closed containers where heat is involved. At a certain temperature called the flash point, spray or vapours could ignite and burn the operator or start fires. Always clean the spray equipment in an area with sufficient ventilation.
- Be very careful when using scaffolding or ladders. They must be strong and in good repair.
- **Rags containing paint or oil should be placed in a closed container to avoid fires.**

ANNEXURE-XIII UNIFORMS FOR OPERATOR'S STAFF

The uniform must have O&M agency's logo and company name. Uniform specifications for different categories of staff are as follows:

i. Full body coveralls and PPEs for all operators and field staff

Applicable to: Operators (Filter plant/ pump/ chlorination plant), Electrician, Fitters, Helpers, Sweepers

- Full body protective clothing: Durable coveralls or jumpsuits or shirt and trouser made from a water-resistant or water-repellent material to protect the operators and staff from potential splashes or spills of water or chemicals. It should be suitable for welding and other mechanical works. Full sleeves with brass zippers and at least 200 GSM. Colour shall be sky blue or navy blue.

Other accessories (PPE):

- Safety shoes: Sturdy, slip-resistant safety shoes conforming IS 15298 (2011).
- Chemical Resistant Gloves: made from appropriate materials such as nitrile or neoprene to protect hands during tasks involving the handling of chemicals.
- Cut Resistant Gloves: for activities involving grinders, cutters, material lifting and handling
- Safety goggles: Encourage the use of safety goggles to protect the eyes from potential splashes, chemical, or other hazards.

ii. Office formals

Applicable to: Manager, Engineer, SCADA Operator, Lab in-charge and Data entry operator

- Formal full sleeves shirt: Light blue (sky blue) coloured (Male)
- Formal Trousers: Navy blue coloured (Male)
- Sky blue/ Navy blue formal attire for female (Saree or shirt & trousers or skirt)
- When on field or site visit, the personnel must wear appropriate personal protective equipment as per the requirements such as safety shoes, safety helmet etc.

iii. Laboratory personnel

Applicable to: Chemist and Lab helper

- In addition to the formal uniform, the Lab in-charge and laboratory helper must have a laboratory apron (white coloured, 200+ GSM) when working in the laboratory.

iv. Business casuals

Applicable to: Outdoor campus maintainer, valve man

- Collared T-shirt or Shirt (Male or Female) or Saree (for females): Light blue (sky blue coloured)
- Trouser: (Navy blue coloured)

ANNEXURE-XIV IDENTITY CARD FOR AGENCY'S STAFF

<i>Company logo</i>	Company Name	
	<i>Company's Address</i>	
<i>Photograph of personnel</i>	<i>Project Name:</i>	
	Name	<staff name>
	Designation	
	Date of Birth	
	Blood Group	
<hr/> <i>Signature and Name of Authorized representative of contractor</i>		

ANNEXURE-XV OPERATING PROCEDURES

TROUBLESHOOTING

Short circuiting in flocculator

Under such circumstances very inferior settled water is produced. Short circuiting in flocculation basins is characterized by currents which move rapidly through and continue into the settling tanks. The floc removal problem is compounded with incomplete flocculation and currents introduced into the settling process inhibit removal. Properly operated entrance, curtain baffles and exit weirs and launders can significantly improve settling.

Coagulation-flocculation process, trouble shooting.

Problems	Operator Actions	Possible process changes
Source water Quality changes		
Turbidity	<ol style="list-style-type: none"> 1. Perform necessary analyses to determine extent of change 2. Evaluate overall process performance 3. Perform jar tests. 4. Make appropriate process changes (see right hand column possible process changes) 5. Increase frequency of process monitoring 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage. 2. Adjust flash mixer/flocculator mixing intensity. 3. Add coagulant aid or filter aid. 4. Adjust alkalinity or pH. 5. Change coagulant(s)
Coagulation process Effluent quality changes		
Turbidity Alkalinity pH	<ol style="list-style-type: none"> 1. Evaluate source water quality 2. Perform jar tests. 3. Verify process performance: <ol style="list-style-type: none"> a. Coagulant feed rate(s) b. Flash mixer operation. 4. Make appropriate process changes 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage. 2. Adjust flash mixer intensity (if possible) 3. Adjust alkalinity or pH 4. Change coagulant(s)
Flocculation Basic Floc Quality Changes		
Floc Formation	<ol style="list-style-type: none"> 1. Observe floc condition in basin: <ol style="list-style-type: none"> a. Dispersion. b. Size and c. Floc strength (break up) 2. Evaluate overall process performance. 3. Perform jar tests. <ol style="list-style-type: none"> a. Evaluate floc size setting rate and strength. b. Evaluate quality of supernatant: Clarity (turbidity) ph. And colour 4. Make appropriate process changes. 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage 2. Adjust flash mixer/flocculator mixing intensity. 3. Add coagulant aid. 4. Adjust alkalinity or ph. 5. Change Coagulant(s)

Sedimentation process, trouble shooting.

Problems	Operator Actions	Possible process changes
Source water Quality changes		
Turbidity temperature Alkalinity pH Colour	<ol style="list-style-type: none"> 1. Perform necessary analysis to determine extent of change. 2. Evaluate overall process performance. 3. Perform jar tests. 4. Make appropriate process changes (next column) 5. Increase frequency of process monitoring 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage. 2. Adjust flash mixer/flocculator mixing intensity. 3. Change frequency of sludge removal (increase or decrease) 4. Increase alkalinity by adding lime, caustic soda or soda ash. 5. Change coagulant.
Flocculation process Effluent quality changes		
Turbidity Alkalinity pH	<ol style="list-style-type: none"> 1. Evaluate overall process performance. 2. Perform jar tests. 3. Verify performance o coagulation flocculation process. 4. Make appropriate process changes (next column) 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage 2. Adjust flash mixer/flocculator mixing intensity. 3. Adjust improperly working chemical leader. 4. Change coagulant.
Sedimentation Basic Changes		
Floc settling Rising or floating sludge	<ol style="list-style-type: none"> 1. Observe floc settling characteristics: <ol style="list-style-type: none"> a. Dispersion b. Size c. Settling rate 2. Evaluate overall process performance. 3. Perform jar tests. <ol style="list-style-type: none"> a. Assess floc size and setting rate. b. Assess quality of settled water (clarity and colour) 4. Make appropriate process changes (next column) 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage. 2. Adjust flash mixer/flocculator mixing intensity. 3. Change frequency of sludge removal (increase or decrease) 4. Remove sludge from basic. 5. Repair broken sludge rakes. 6. Change coagulant.
Sedimentation Process Effluent Quality Changes		
Turbidity Colour	<ol style="list-style-type: none"> 1. Evaluate overall process performance. 2. Perform jar test. 3. Verify process performance. Coagulation-flocculation process. 4. Make appropriate process changes (next column) 	<ol style="list-style-type: none"> 1. Change coagulant. 2. Adjust coagulant dosage 3. Adjust flash mixer/flocculator mixing intensity. 4. Change frequency of sludge removal (increase or decrease)
Up low clarifier process Effluent Quality changes.		
Turbidity Turbidity caused by sludge Blanket coming to Top due to Rainfall on Watershed.	<ol style="list-style-type: none"> 1. Sec.4 above. 2. Open main drain valve of clarifier. 	<ol style="list-style-type: none"> 1. See 4 above (sedimentation process) 2. Drop entire water level of clarifier to bring the sludge blanket down.

Filtration process, trouble shooting.

Problems	Operator Actions	Possible process changes
Source water Quality changes		
Turbidity Temperature Alkalinity pH Colour Chlorine Demand	<ol style="list-style-type: none"> 1. Perform necessary analysis to determine extent of change. 2. Assess overall process performance 3. Perform a jar test. 4. Make appropriate process changes. 5. Increase frequency of process monitoring. 6. Verify response to process changes (be sure to allow enough time for change to take effect) 7. Add lime or caustic soda if alkalinity is low. 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage. 2. Adjust flash mixer/ flocculator mixing intensity. 3. Change frequency of sludge removal (increase or decrease) 4. Adjust backwash cycle (rate, duration) 5. Change filtration rate (add or delete Filters) 6. Start filter aid feed. 7. Change coagulant.
Sedimentation process Effluent quality changes		
Turbidity or floc carry over	<ol style="list-style-type: none"> 1. Assess overall process performance. 2. Perform jar tests. 3. Make appropriate process changes. 	Same as source water quality changes.
Filtration process change/ problems.		
<ul style="list-style-type: none"> • Head loss increase • Short filter runs • media surface sealing • Mud balls • Filter media cracks, shrinkage • Filter not clean • Medical bolts • Media loss • Excessive head loss. 	<ol style="list-style-type: none"> 1. Assess overall process performance. 2. Perform jar tests. 3. Make appropriate process changes. 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage. 2. Adjust flash mixer/ flocculator mixing intensity. 3. Change frequency of sludge removal (increase or decrease) 4. Adjust backwash cycle (rate, duration) 5. Manually remove mud balls. 6. Decrease filtration rate (add more filters) 7. Decrease or terminate filter aid. 8. Replenish lost media 9. Clear under drain openings of media, corrosion or chemical deposits, check head loss. 10. Change coagulant.
Filter Effluent Quality changes		
Turbidity Breakthrough Colour pH Chlorine	<ol style="list-style-type: none"> 1. Assess overall process performance. 2. Perform Jar tests. 3. Verify process performance: <ol style="list-style-type: none"> a. Coagulation and Flocculation b. Sedimentation process. c. Filtration process. 4. Make appropriate process changed. 	<ol style="list-style-type: none"> 1. Adjust coagulant dosage. 2. Adjust flash mixer/ flocculator mixing intensity. 3. Change frequency of sludge removal 4. Start filter aid feed. 5. Decrease filtration rate (add more filters) 6. Change chlorine dosage 7. Change coagulant.

Transmission

Procedure to follow in case of leakage found in pipeline

1. First, agency has to report to the competent authority immediately by phone.
2. Visit the site of leakage and ascertain manpower and machineries required;
3. Stop the butterfly valves on the both side of the leakage;
4. Drain the pipe in between two butterfly valves with the help of scour valves available;
5. On receipt of excavator, start the excavation on the leakage site and detect the leakage;
6. If required, start dewatering the pipeline and trench by deploying dewatering set. If required, necessary trench shall be excavated up to nearby nalas or low-lying area or if nalas are not available nearby then, dewatering shall be done through line (LDPE) up to the safe area of disposal;
7. If work is to be prolonged in night, necessary lightening arrangement shall also be done;
8. Based on the leakage in pipeline i.e. DI/MS/PVC/HDPE, the required materials for repairing of the leakages shall be arranged immediately;
9. If leakage has occurred in MS pipeline, then, mobilize DG set, welding equipment, pipe piece and specials of required dia. & size, grinding equipment, welding electrodes etc. shall be arranged immediately;
10. If leakages in found in PVC/HDPE pipeline, then mobilize pipe cutting equipment, piece of pipes, solvent, suitable clamps, specials nut bolts etc. shall be arranged immediately;
11. If leakage is found in DI pipes, then, mobilize piece of pipe, cutting equipment, necessary suitable MJ Collar joint, specials, rubber rings, nut bolts etc. shall be arranged immediately.
12. Leakage repairing in MS/PVC/DI/HDPE shall be done with the best practices and the directives of the Engineer in charge.
13. After completion of the leakages, excavated trench shall be refilled to the level of the surrounding ground;
14. After completion of the leakage water supply shall be started with super-chlorination
15. Water supply shall be started with controlled flow and if leakage is found rectify satisfactorily then water supply shall be increased gradually to the normal level by increasing the number of pumps as per requirement.
16. If major leakages are found, it requires more than 24 hours, then alternate arrangement of water supply shall be done by deploying tankers to the affected habitations.
17. On successful completion the leakage and normal supply is achieved in affected habitations, then water tanker shall be taken off immediately;
18. Record of deployment of tanker shall be kept & reported to the competent authority;

START-UP AND SHUTDOWN PROCEDURES

These procedures generally happen when the plant is shut down for maintenance. However, on some rare instances, shut down may be required due to a major equipment failure.

Coagulation-flocculation

Start-up procedures

Step	Procedures
1.	Check the condition of all mechanical equipment i.e.gear box, flash mixing equipment's, motors & rotating assembly, for proper lubrication and operational status.
2.	Make sure all chemical feeders are ready. There should be plenty of chemicals available in the tanks and ready to be fed to the raw water.
3.	Collect a sample of raw water and immediately run a jar test using fresh chemicals from the supply of chemicals to the feeders.
4.	Determine the settings for the chemical feeders and set the feed rates on the equipment.
5.	Open the inlet gate or valve to start the raw water flowing.
6.	Immediately start the selected chemical feed systems.
7.	Open valves to start feeding coagulant chemicals and dilution make-up water.
8.	Check flow measurement at inlet.
9.	Start chemical feeders.
10.	Adjust chemical feeders as necessary.
11.	Turn on the flash mixer at the appropriate time. You may have to wait until the Tank or channel is full before turning on the flash mixer. Follow the manufacturer's instructions.
12.	Start the sample pumps as soon as there is water at each sampling location. Allow sufficient flushing time before collecting any samples.
13.	Start the flocculators as soon as the first basin is full of water.
14.	Inspect mixing chamber and flocculation basin. Observe formation of floc and make necessary changes.
15.	Remove any debris floating on the water surface.
16.	Perform water quality analysis and make process adjustments as necessary.
17.	Calibrate chemical feeders.
18.	Note: Do not allow any untreated water to flow through the plant.

Shut down procedures

Step	Procedures
1.	Close raw water gate to flash-mix chamber or channel.
2.	Shut down the chemical feed systems.
3.	Turn off chemical feeders. Shut off appropriate valves.
4.	Flush or clean chemical feed lines if necessary.
5.	Shut down flash mixer and flocculates as water leaves each process.
6.	Shut down sample pumps before water leaves sampling location
7.	Waste any water that has not been properly treated.
8.	Lock out and tag appropriate electrical switches.
9.	Dewater basins, if necessary. Waste any water that has not been properly treated. (Note: Do not dewater below-ground basins without checking groundwater levels. Be careful that the basin may float or collapse depending on ground water, soil or other conditions.)
10.	Close basin isolation gates or install stop-logs.
11.	Open basin drains valves

Sedimentation

Start-up Procedure

- 1) Check operational status and mode of operation of equipment and physical facilities.
 - a. Check that basin valves are closed.
 - b. Check that basin isolation gates are closed.
 - c. Check that launder weir plates are set at equal elevations.
 - d. Check to ensure that all trash, debris and tools have been removed from basin.
- 2) Test sludge removal equipment.
 - a. Check that mechanical equipment is properly lubricated and ready for operation.
 - b. Observe operation of sludge removal equipment.
- 3) Fill sedimentation basin with water.
 - a. Observe proper depth of water in basin.
 - b. Remove floating debris from basin water surface.
- 4) Start sample pumps.
- 5) Perform water quality analyses.
- 6) Operate sludge removal equipment. Be sure that all valves are in the proper position.

Shut Down Procedures

- 1) Stop flow to sedimentation basin. Install basin isolation gates.
- 2) Turn off sample pump.
- 3) Turn off sludge removal equipment.
 - a. Shut off mechanical equipment and disconnect where appropriate.
 - b. Check that valves are in proper position.
- 4) Lock out electrical switches and equipment.
- 5) Dewater basin if necessary.
 - a. Be sure that the water table is not high enough to float the empty basin.
 - b. Open basin drains valves.
- 6) Grease and lubricate all gears, sprockets and mechanical moving parts which have been submerged immediately following dewatering to avoid seize up.

Filtration

Start-up Procedures

- Start filter
- Slowly open influent valve.
- When proper elevation of water is reached on top of filter, filter effluent valve should be gradually opened. This effluent control valve should be adjusted itself to maintain a constant level of water over the filter media.
- Waste some of the initial filtered water if such a provision exists.
- Perform turbidity analysis of filtered water and make process adjustments as necessary.

Shutdown Procedures

- Remove filter from service by closing influent valve and closing effluent valve
- Backwash filter.
- If filter is to be out of service for a prolonged period, drain water from filter to avoid algal growth.
- Note status of filter in operations log.

Pumping**Start up****a) Centrifugal Pump (of low and medium specific speed)**

- i. To start a centrifugal pump, the suction pipes and the pump should be fully primed irrespective of the fact whether the pump is with positive (flooded) suction or suction lift. The centrifugal pump with positive suction can be primed by opening valve on suction side and letting out air from the casing by opening air vent. Centrifugal pump on suction lift necessitates close attention to prime the pump fully. To achieve this, the suction pipe and the pump casing must be filled with water and entire air in suction piping and the pump must be removed. If vacuum pump is provided, the pump can be primed by operating vacuum pump till steady stream of water is let out from delivery of vacuum pump. In absence of vacuum pump, priming can be done by pouring water in casing and evacuating air through air vent or by admitting water from pumping main by opening bypass of reflux valve and delivery valve. Check all joints in the suction pipe and fittings.
- ii. Close the delivery valve and then loosen slightly.
- iii. Switch on the motor, check that direction of rotation is correct. If the pump does not rotate, it should be switched off immediately.
- iv. Check vacuum gauge if the pump operates on suction lift. If the pointer on gauge gradually rises and becomes steady the priming is proper.
- v. Pressure gauge should be observed after starting the pump. If the pump is working correctly the delivery pressure gauge should rise steadily to shut off head.
- vi. When the motor attains steady speed and pressure gauge becomes steady, the delivery valve should be gradually opened in steps to ensure that the head does not drop below recommended limit. (in the absence of recommendations, the limit shall be about 85% of duty head for centrifugal pump).
- vii. Check that ammeter reading is less than rated motor current.
- viii. Check for undue vibration and noise.
- ix. When in operation for about 10-15 minutes, check the bearing temperature, stuffing box packing, and leakage through mechanical seal and observe vibrations, if any.
- x. Voltage should be checked every half an hour and should be within limit.

b) Vertical Turbine Pump

- i. Close delivery valve, and then loosen slightly.

- ii. If pump is oil-lubricated, check the oil in the oil tank and open the cock to ensure that oil is flowing at the rate of 2-4 drops per minute. If the pump is self water-lubricated and length of column assembly is long (15 m or above), external water shall be admitted to wet and lubricate the line shaft bearings before starting the pump. If the pump is external clear water lubricated, the clear water lubricating pump should be started before starting main pump.
- iii. Open the air vent in discharge/delivery pipe.
- iv. Switch on the motor and check correctness of direction of rotation. If the pump does not rotate, it should be switched off immediately.
- v. Check that oil is flowing into the pump through the sight glass tube. The number of drops/min. should be as per manufacturer's recommendations (normally 2-4 drops/minute). For clear water lubricated pump, check that lubricating clear water is passing into the column assembly.
- vi. Check pressure gauge reading to ensure that pump has built up the required shut off head.
- vii. When the motor attains steady speed and pressure gauge becomes steady, the delivery valve should be gradually opened in steps to ensure that the head does not drop below recommended limit. (In absence of recommendation, the limit shall about 75% of duty head for VT & submersible pump).
- viii. If steady water stream is let out through air vent, close the air vent.
- ix. Check that ammeter reading is less than rated motor current.
- x. Check for undue vibration and noise.
- xi. When in operation for about 10-15 minutes, check bearing temperature, stuffing box packing and observe vibration if any.
- xii. Voltage should be checked every half an hour and should be within limit.

c) Submersible Pumps

Starting of a submersible pump is similar to vertical turbine pump except those steps ii, v, and xi are not applicable and since motor is not visible, correctness of direction of rotation is judged from pressure gauge reading which should indicate correct shut off head.

d) Jet Pump

The procedure for starting jet pumps is similar to centrifugal pump except that priming by vacuum pump is not possible. Priming needs to be done by filling the pump casing and suction line from external source or by pouring water.

e) Vacuum Pump

The procedure for starting vacuum pump is similar to centrifugal pump except that priming is not necessary and valves on both suction & delivery side of vacuum pump should be fully open.

f) Reciprocating Pump

The steps stipulated for centrifugal pump are equally applicable for reciprocating pump. However, exceptions as follows are applicable.

- The pump should be started against partially open delivery valve.
- The pump should never be started or operated against closed delivery valve.

Shutdown**a) Stopping the pump under normal conditions**

Steps to be followed for stopping a pump of low and medium specific speed are as follows:

- i. Close the delivery valve gradually (sudden or fast closing should not be resorted to, which can give rise to water hammer pressures).
- ii. Switch off the motor.
- iii. Open the air vent in case of V.T. and submersible pump.
- iv. Stop lubricating oil or clear water supply in case of oil lubricated or clear water lubricated VT pump as applicable.

b) Stopping the pump after power failure/ Tripping

If power supply to the pumping station fails or trips, actions stated below should be immediately taken to ensure that the pumps do not restart automatically on resumption of power supply. Though no-volt release or under volt relay is provided in starter and breaker, possibility of its malfunctioning and failure to open the circuit cannot be ruled out. In such eventuality, if the pumps start automatically on resumption of power supply, there will be sudden increase in flow velocity in the pumping main causing sudden rise in pressure due to water hammer which may prove disastrous to the pumping main. Secondly, due to sudden acceleration of flow in the pumping main from no-flow situation, acceleration head will be very high, and the pumps shall operate near shut off region during acceleration period which may last for few minutes for long pumping main and cause overheating of the pump. Restarting of all pumps simultaneously shall also cause overloading of electrical system.

Hence, precautions are necessary to prevent auto-restarting on resumption on power. Following procedure should be followed.

- i. Close all delivery valves on delivery piping of pumps, if necessary, manually as actuators cannot be operated due to non-availability of power.
- ii. Check and ensure that all breakers and starters are in open condition i.e. off-position.
- iii. All switches and breakers shall be operated to open i.e. off-position
- iv. Open air vent in case of V.T. or submersible pump and close lubricating oil or clear water supply in case of oil lubricated or clear water lubricated V.T. pump.
- v. Information about power failure should be given to all concerned, particularly to upstream pumping station to stop pumping so as to prevent overflow.

ANNEXURE-XVI TRAINING PROGRAM FOR AGENCY'S STAFF

Agency shall undertake training program for its staff on the topics mentioned below. Training records, attendance sheet shall be maintained as evidence. The below topics are not exhaustive; agency may add more topics as deemed necessary.

Training Topic	Target Audience	Frequency	Indicative Contents of Training Module
Basic Technical Training	New operators	Initial training, periodic refresher training as needed	<ul style="list-style-type: none"> ▶ Understanding the water cycle and water sources ▶ Water treatment processes and methods ▶ Distribution system components and layout ▶ Water storage management ▶ Water quality standards and regulations
Health and Safety Training	All operators	Annual, or as needed to keep up to date	<ul style="list-style-type: none"> ▶ Hazardous materials handling and storage ▶ Personal protective equipment (PPE) selection and usage ▶ Chemical spill response procedures ▶ Electrical safety protocols ▶ Emergency response planning and protocols
Water Quality Monitoring	All operators, Lab technicians	Annual, or as needed to keep up to date	<ul style="list-style-type: none"> ▶ Sampling techniques and protocols ▶ Water quality parameters and measurement methods ▶ Analytical laboratory methods and interpretation of results Reporting requirements and data management ▶ Troubleshooting common water quality issues
System Maintenance and Repair	All operators	Annual, or as needed to keep up to date	<ul style="list-style-type: none"> ▶ Maintenance and inspection schedules and procedures ▶ Pump and valve maintenance and repair ▶ Chlorination and disinfection equipment maintenance ▶ Leak detection and repair ▶ Hydraulic principles and calculations
Beneficiary & Community orientation	All operators	Annual, or as needed to keep up to date	<ul style="list-style-type: none"> ▶ Complaint handling and resolution strategies ▶ Billing and payment processes and procedures ▶ Community engagement, awareness and outreach
Emergency Response Training	All operators	Annual, or as needed to keep up to date	<ul style="list-style-type: none"> ▶ Emergency response planning and protocols ▶ Disaster preparedness and response ▶ Water supply disruption response ▶ Coordination with local authorities and

Training Topic	Target Audience	Frequency	Indicative Contents of Training Module
			<p>emergency services</p> <ul style="list-style-type: none"> ▶ Incident reporting and documentation
Health, Safety and Environment	All staff	Annual, or as needed to keep up to date	<ul style="list-style-type: none"> ▶ Hazard identification and risk assessment ▶ Personal protective equipment (PPE) usage and maintenance ▶ Emergency response and evacuation procedures ▶ Occupational health and hygiene practices ▶ Environmental impact awareness and mitigation measures
Continuing Education	All operators	Periodic, based on availability of new information and resources	<ul style="list-style-type: none"> ▶ Water supply system upgrades and innovations ▶ Regulatory updates and compliance ▶ Water conservation and sustainability practices ▶ Energy efficiency and cost-saving measures ▶ Emerging technologies and water treatment processes

ANNEXURE-XVII COMMUNICATION OR REPORTING MATRIX

Sr. No.	Designation	Office Address	Contact details
1	Shri B. A. Mistry Chief Engineer Zone-2, Ahmedabad	Office of Chief Engineer, Zone-2, GWSSB, Jal Bhavan, B/H. Mangaldas Town hall, Ahmedabad.	cezone2@gmail.com Mo. No 9978406701
2	Shri S.Y. Mansuri Superintending Engineer P. H. Circle, Palanpur	Office of Superintendent Engineer P. H. Circle, Jal bhavan, Near Adarsh High School, Banas Dairy Road, PALANPUR	gwssepln0@gmail.com Mo. No 9978406544
3	Shri K. S. Chudhary Superintending Engineer P. H. Mechanical Circle, Ahmedabad	Office of Superintendent Engineer P. H. Mechanical Circle, GWSSB, Jal Bhavan, B/H. Mangaldas Town hall, Ahmedabad	gwssemamd0@gmail.com Mo.no. 9978406887
4	Shri K.R. Patel Executive Engineer P. H. Works Division, Radhanpur	Office of Executive Engineer, P. H. Works Division, Jalbhavan, Behind Referral Hospital, Radhanpur, Dist:- Patan -385340	gwsseecrdn0@gmail.com Mo. No 9909234035
5	Shri M. P. Nai, Executive Engineer P. H. Mechanical Division, Palanpur	Office of Executive Engineer, P.H. Mechanical Division, 2nd floor, Jalbhavan, PALANPUR Dist.: PALANPUR.	gwsseempln1@gmail.com Mo.no. 9978406930
6	Shri S. V. Panchal, Deputy Executive Engineer, PHS Subdivision, Radhanpur	Office of Deputy Executive Engineer, Public health Sanitary Sub Division, Radhanpur.	gwsdeecrdn01@gmail.com Mo.no. 9099052680
7	Shri L. S. Vagadiya Deputy Executive Engineer, P. H. S Sub division, Santalpur.	Office of Deputy Executive Engineer, Public health Sanitary Sub Division, Santalpur	gwsdeecrdn02@gmail.com Mo.no. 9825987795
8	Shri A. S. Chudhary, Deputy Executive Engineer, P. H. Mechanical Sub division, Shankheshwar	Office of Deputy Executive Engineer, Public health Mechanical Sub Division, Patan	gwsdemshankh@gmail.com Mo.no. 9727782028

ANNEXURE-XVIII TOOLS & TACKLES

Provide and maintain location wise tools and tackles in the given quantity

Location: _____

Sl. No.	Item	Quantity	Unit
1	For spanner set size 6mm to 22mm	16	Set
2	Fix spanner set size 6mm to 52mm	16	Set
3	Ring spanner set size 6mm to 22mm	16	Set
4	Ring spanner set size 7mm to 52mm	16	Set
5	Box spanner set size 6mm to 38mm	16	Set
6	Pipe wrench size 36"	16	Set
7	Pipe wrench size 24"	16	Nos
8	Screw driver size 6", 9", 12" (2 no of each size)	16	Nos
9	Insulated plier size 12"	16	Nos
10	Long-nose plier set 8"	16	Nos
11	Adjustable screw spanner size 12"	16	Nos
12	Hammer 1 LB x2 LB	16	Nos
13	Electric Tester	16	Nos
14	Chisel 12" x 6" (2Nos. of each size)	16	Nos
15	Hack saw frame	16	Packets
16	Hack saw blade	16	Pairs
17	Hand gloves suitable for 33 KV	32	Nos
18	Spade (Phawada)	20	Nos
19	Ghamela	20	Nos
20	Pickaxe (Tikam)	20	Nos
21	Lawn mower (For gardening)	16	Nos
22	File (12" & 18")	32	Nos
23	Plastic bucket 10 liters	32	Nos
24	Rope ½"	240	Meter
25	Torch & Batteries	20	Nos
26	Safety PPEs (personal protective equipment)	16	Set
27	Dewatering pump and hose	20	Set
	<add any other as required>		

Section III: Conditions of Contract

8. GENERAL CONDITIONS OF CONTRACT

1. SECURITY DEPOSIT

1.1 Security Deposit is required to be furnished by the contractor as guarantee money for performance of the contract and observance of Contractor Conditions. The person/persons whose tender is accepted (hereinafter called the "Contractor") which expression shall, unless excluded by, or repugnant to the context include his Legal heirs, executors, administrators and assignees shall pay the total amount of Security Deposit equal to 10 (ten) percent of the estimated cost or contract value (Part A & B of price bid) whichever is higher for the work put to tender.

- a) The contractor shall **pay first five percent of Security Deposit** in form of bank guarantee (out of 10% as mentioned in 1.1) within 10 days from the date of receipt of acceptance letter of his offer and

In case of bids mentioned below, the successful Bidder, along with the Performance Security shall also furnish to the Authority an irrevocable and unconditional guarantee from any nationalized bank or as per list mentioned in GR of. Finance Department, **(LATEST G.R OF FINANCE DEPARTMENT, GOVT.OF GUJ. SHALL BE APPLICABLE)** towards an Additional Performance Security (The "Additional Performance Security") for an amount calculated as under:

- i. If the Contract Price offered by the Selected Bidder is lower than 10% but upto 20% of the Estimated Project Cost, then the Additional Performance Security shall be calculated @ 20% of the difference in the (i) Estimated Project Cost (as mentioned in Bid Document) - Minus 10% of the Difference of Estimated Project Cost and Contract Price offered by the selected Bidder.
 - ii. If the Contract Price offered by the Selected Bidder is lower than 20% of the Estimated Project Cost, then the Additional Performance Security shall be calculated @ 30% of the difference in the (i) Estimated Project Cost (as mentioned in Bid Document) - Minus 10% of the Estimated Project Cost and (ii) Contract Price offered by the selected Bidder.
 - iii. This Additional Performance Security shall be treated as part of the Performance Security
- b) And the remaining five percent, shall be deducted as retention money from the running bills of the contractor.
- c) The contractor shall submit an additional security deposit in form of performance bank guarantee equivalent to 10% of the 'works' component value, if any. This value shall be as per the Volume II- Price Bid Part C. Moreover, if there is a major replacement in asset spares or asset itself, then the agency will have to submit security deposit for the same.

1.2 The work-order to commence the work shall be issued only after the security deposit as per Para 1.1 is paid / furnished by the bidder. If the bidder fails to produce the security deposit as above the earnest money paid by him shall be forfeited and his registration shall be held in abeyance for three years from the date of such default.

1.3 All compensation, penalties due for payment or other sums or money payable by the contractor to Government under the terms of this contract shall be deducted from or recouped by the realisation of a sufficient part of his security deposit, or from the interest arising there from or performance bond or from any sums which may due or may become due by Government to the Contractor on any account whatsoever and whether in respect of this contract, any other contract, or otherwise. In the event of his security deposit being reduced by reason of any such deduction or recoupment as aforesaid the contractor shall within ten days thereafter, make good in cash or in Government securities transferred as aforesaid any sum or sums required to make good the shortfall in the amount of the security deposit.

- 1.4 The security deposit submitted in form of performance bond/ guarantee (as per 1.1 (a)) shall be valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the contractor. Such deposit bond shall be released within fifteen days after the issue of final completion certificate for O&M or issue of "Taking Over Certificate".
- 1.5 After satisfactory handing over the operation to new contractor/ department, if there is recovery of any dues and any other obligation shall be adjusted towards retention money (1.1 (b)) being held by the authority. Balance amount shall be refunded within two months (60 days from the taking over date).
- 1.6 Security deposit submitted as per 1.1 (c), shall be valid up to 60 days beyond the defect liability period or warranty period. It will be released subject to completion of such defect liability period within 30 days.

2. MEASURES FOR PREVENTION OF FIRE:

The Contractor shall not set fire to any standing jungle, tree, bush wood or grass without a written permit from the Engineer-in-Charge, When such permit is given, and also in all cases when destroying cut or dug up trees, bush wood, grass etc. by fire, the contractor shall take necessary measures to prevent such fire spreading to or other-wise damages surrounding property.

3. LIABILITY OF CONTRACTORS FOR ANY DAMAGES DONE IN OR OUTSIDE WORK AREA:

Compensation for all damage done intentionally or unintentionally by Contractor's labourers whether in or beyond limits of Government property, including any damage caused by the spreading of fire mentioned in the clause 2, shall be estimated by the Engineer-in-Charge, or such other Officer as he may appoint and the estimates of the Engineer-in-Charge, subject to the decision of the Superintending Engineer, on appeal, shall be final and the Contractor shall be bound to pay the amount of the assessed compensation on demand, failing which the same will be recovered from the Contractor as damages in the manner prescribed in clause 1 or deducted by the Engineer-in-Charge from any sums that may be due or become due from Government to the Contractor under this contract or otherwise.

4. SUBLETTING WORK

Work not be sublet: No works of this contract is allowed to be Sublet.

5. CHANGES IN THE CONSTITUTION OF FIRM

Changes in the constitution of firm to be notified: In the case of a tender by partners, any changes in the constitution of a firm shall be forth with notified by the Contractor to Engineer-in-Charge for his information.

6. DISPUTES

If the Contractor is of the view that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contract or that the decision was wrongly taken, the decision shall be referred to **#Superintending Engineer** (Higher Authority) within 14 days of the notification of the Engineer's decision. If the issue is not resolved, any party can refer the matter for conciliation within 15 days from the decision given by the **#Superintending Engineer**.

- (a) For the work up to Rs.100 Cr., if any of the parties is not satisfied with the decision of the **#Superintending Engineer**, both the parties have to refer to the Chief Engineer concern for the conciliation process.

- (b) For the work more than Rs.100 Cr., if any of the parties is not satisfied with the decision of the **Superintending Engineer**, both the parties have to refer to the Member Secretary, GWSSB for the conciliation process.

If the dispute is not resolved through the conciliation process, he may refer the dispute to Gujarat Public Works Contract Dispute Arbitration Tribunal. If the Contractor fails to refer a claim / dispute to the Higher Authority within 14 days of the notification of the Engineer's decision, the Contractor shall not be entitled to any additional payment/claim if he doesn't follow the above sequence in stipulated time and he should not stop the work.

7. ARBITRATION

The arbitration shall be conducted in accordance with the arbitration procedure stated in clause 6.

8. WORKER'S COMPENSATION

Compensation under the Workmen's Compensation Act: The Contractor shall be responsible for and shall pay any compensation to his workman payable under the Workmen's Compensation Act, 1923 (VIII of 1923) here in after called the said Act for injuries caused to the workmen. If such compensation is paid by Government as principal under subsection (i) of section 12 of the said Act. On behalf of the contractor, it shall be recoverable by the Government from the Contractor under sub-section (2) of the said section. Such compensation shall be recovered in the manner laid down in clause 1 above.

9. EXPENSES OF PROVIDING MEDICAL AID

The Contractor shall be responsible for and shall pay the expenses of providing medical aid to any workmen who may suffer a bodily injury as a result of an accident. If such Expenses are incurred by Government, the same shall be recoverable from the Contractor forthwith and be deducted, without prejudice to any other remedy of Government, from any amount due or that may become due to the Contractor.

10. SAFETY

The Contractor shall provide all necessary personal safety equipment and first-aid apparatus available for the use of the persons employed on the site and shall maintain the same in suitable condition for immediate use at any time and shall comply with the following regulations in connection therewith:

- (a) The workers shall be required to use the equipment so provided by the Contractor and the Contractor shall take adequate steps to ensure proper use of the equipment by those concerned
- (b) When work is carried out in proximity to any place where there is a risk of drawing, all necessary steps shall be taken for the prompt rescue of any person in danger.
- (c) Adequate provision shall be made for prompt first-aid treatment of all injuries likely to be sustained during the course of the work.

10.1. EMERGENCIES

In the event of an emergency endangering life or property, the Contractor shall immediately take action as may be necessary to prevent, avoid or mitigate injury, damage or loss and shall, as soon as possible, report any such incidents, including his response thereto to the Employer.

10.2. CONTRACTOR ACTION:

The Contractor shall utilize his personnel to take such action as may be necessary in accordance with Good Operating Practices in the event of an emergency. Notwithstanding anything to the contrary herein, the Contractor may incur any expenditure or take any other operating actions as the Contractor deems to be necessary (in accordance with good operating practices) in the case of emergencies affecting the Facilities or the operation of the Facilities to counteract the effects where the Contractor considers immediate action

is required to safeguard lives or property. In case such emergency was caused due to an Employer's Risk then the Employer shall reimburse such reasonable expenses that might have been incurred by the Contractor in relation thereto acting in accordance with Good Industry Practices.

10.3. NOTIFICATION:

10.3.1. In the event of an emergency the Contractor shall forthwith notify the Employer of the emergency, the expenditures made, and the operating actions taken.

10.3.2. If the Employer considers that an emergency has arisen in relation to the Facilities, the Employer may give written notice to the Contractor specifying the nature of the emergency which it has identified and the manner in which it requests such emergency to be rectified. The Contractor shall rectify such defect with all due diligence. If such emergency is on account of an Employer's Risk, then the Contractor shall be reimbursed all costs and expenses reasonably incurred by the Contractor for any actions taken by it pursuant to such direction or notice. If the Contractor fails to comply with such direction or notice promptly, the Employer shall be entitled to procure that it or any third party takes such actions as may be necessary to remedy such breach by the Contractor. Any costs that may be incurred by the Employer in this regard shall be reimbursed to him in full by the Contractor and shall be a debt due to him from the Contractor.

11. MINIMUM AGE

Minimum age of person employed: No Contractor shall employ any person who is under the age of 18 years.

12. FAIR WAGES TO LABOURER

If a Contractor fails to pay within "7" (seven) days to the labourer (s) worker(s) the minimum wages prescribed by the Government under the Minimum Wages Act. 1948 as in force from time to time, the Engineer-in-charge shall be at liberty to deduct the amount payable to the labourer(s) worker(s) from his (Contractor's) bills or deposit(s) payable by the Contractor after making due inquiries and establishing the claims of the labourer(s) worker(s). The Contractor shall not be entitled to any payment or compensation on account of any loss that the Contractor may have to incur on account of the action as aforesaid. Before the action as aforesaid, is enforced, a notice in writing to the Contractor shall be issued by the Engineer-in-charge to pay the wages as per Minimum Wages Act in force at the relevant time. If Contractor does not act as aforesaid within seven days, then the action contemplated as above shall be taken against him.

The Contractor shall not show any discrimination between Harijan and other class of labourers/workers employed to carry out the Government work.

13. LIABILITY OF CONTRACTOR IN CASE OF ACCIDENTS, PERSONNEL INJURY OR FATALITY

The contractor shall be responsible for and shall pay compensation to his workman payable under the Workmen's Compensation Act. 1923 (VIII of 1923) here in after called the said Act) for injuries caused to the workmen. If such compensation is paid by Government as principal under sub-section 12 (1) of the said Act on behalf of the Contractor, it shall be recoverable by Government from the contractor under sub-section 12 (2) of the said section.

The contractor shall be responsible for and shall pay the expenses of providing medical aid to any workmen who may suffer a bodily injury as a result of an accident. If such expenses are incurred by Government, the same shall be recoverable from the contractor for with and be deducted, without prejudice to any other remedy of Government from amount due or that may become due to the contractor.

Responsibilities and liabilities of the contractor under Workmen's Compensation Act in addition to the above, shall also include the following:

- a) On the occurrence of an accident, which results, in death of workmen employed by the Contractor or which is as serious as is likely to result in death of any such workmen, the Contractor, shall within 24 hours of happening of such accident(s) intimate, in writing, to the Engineer-in-charge the fact of such accident(s). The Contractor shall indemnify Government against all loss or damage sustained by the Government's failure to give notice under the Workmen's Compensation Act or otherwise to conform to the provisions of the said Act in regard to such accident(s).
- b) In the case of an accident, in respect of which compensation may become payable under Workmen's Compensation Act, Whether by the Contractor or by the Government as principal Employer, it shall be lawful for the Engineer-in-charge to retain out of money due and payable to the contractor, such sum or sum of money as may, in the opinion of the Engineer-in-charge be sufficient to meet such a liability. The opinion of the Engineer-in-charge shall be final in regard to all matters arising under this clause.

14. INSURANCE:

The contractor shall be responsible to arrange for insurance of all labourers, skilled and unskilled, workers supervisors etc., employed by him as per labour regulations of the State.

14.1. GENERAL CONDITIONS:S

- 14.1.1. Without limiting the Contractor's obligations, responsibilities and liabilities under these Conditions, the Contractor shall be required to provide and maintain in full force and effect, at his expense the insurance coverage's specified in Annexure VIII throughout the O&M Period. Any deductibles on the insurance shall be to the account of the Contractor.
- 14.1.2. Maintenance of insurance shall not relieve the obligation of the Contractor to remedy or repair any damage to the Facility in case such damage is caused due to the fraud, negligence, wilful misconduct or breach of any obligations of the Contractor under these Conditions (including failure to perform the O & M Services in accordance with Good Operating Practices) at the Contractors cost promptly and regardless of the extent of settlement of claims by the underwriters or the time taken for settlement of claims. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor to the extent any such liability or damage is caused due any breach of any obligations of these Conditions (including failure of the Contractor to perform the O & M Services in accordance with the Good Operating Practices) by the Contractor or any wilful misconduct, negligence on the part of the Contractor.
- 14.1.3. The terms of the Insurance shall be approved by the Employer.
- 14.1.4. The Contractor within the 14 days from work order shall submit to the Employer evidence that the insurances required under Annexure VII of these Conditions has been obtained as approved by the Employer.
- 14.1.5. The Contractor shall not make any alteration to the terms of any insurance without the prior approval of the Employer. If the Contractor fails to effect and keep in force any of the insurance it is required to effect and maintain under these Conditions, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the Employer may affect insurance for the relevant coverage and pay the premiums due and may claim the same from the Contractor.
- 14.1.6. The insurances
 - a) shall be in the name of the Employer and the Employer shall be the sole loss payee,

- b) shall be extended to cover liability for all loss and damage to the Employer's property arising out of the Contractor's performance of his obligations or failure to do so under these Conditions and any fraud, gross negligence or wilful misconduct on his part, and

If the Contractor fails to effect and keep in force insurance which is required to be maintained under these Conditions, and the Employer neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which would have been recoverable pursuant to such insurance shall be paid by the Contractor.

- 14.1.7. The insurance shall cover all the electrical items, mechanical items, Instrumentation & automation items, all civil works, Storage structures etc. The insurance for the work of transmission main is optional. Since the responsibility of safety of all work lies with contractor, contractor may prefer to take the insurance of optional item also if deemed fit.
- 14.1.8. The natural calamity & fire etc. (standard perils) insurance shall be limited to Electrical & Mechanical equipment / assets of the pumping station installed indoor and / or outdoor. The beneficiary shall be GWSSB on A/c of bidder and "Standard Workman Compensation Policy" of manpower engaged for the work by the bidder should be on Account of the bidder c/o GWSSB. In short, the bidder has to take adequate insurance cover for electro mechanical equipment (value shall not be less than estimated and / or accepted value) and man power engaged for O & M work as per rates / monthly amount as per prevailing minimum wages act without fail. It would be contractor's sole responsibility to see that insurance policies are bought & renewed in time. Failure to comply with this condition the contractor shall be entirely responsible for any litigation & financial liabilities.

15. CONTRACT LABOUR LICENCE

Before starting the work, the contractor will have to obtain the licence from the District Assistant Commissioner under the Contract Labour (Regulation and Abolition) Gujarat Rules 1972 after paying necessary fees and deposit on the basis of the number of labourers to be employed on the work and will have to supply two true copies of the said licence to the Deputy Engineer before the work is state.

15.1. COMMENCEMENT AND DURATION OF O & M CONTRACT:

- 15.1.1. The O & M Period shall commence from the date of issue of work order and shall continue for a period of 5 years there from.

15.2. APPLICABLE LAW:

- 15.2.1. The Contractor shall comply with all Applicable Law relevant to the Contractor's Personnel, including Applicable Law relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.
- 15.2.2. The Contractor shall require his employees to obey all Applicable Laws, including those concerning safety at work.
- 15.2.3. In the event Employer becomes liable to any Employers Personnel, any governmental authority (including but not limited to any fines or penalties levied by or payable to such authority) or any other third party under the provisions of any Applicable Law resulting from Contractor's failure to comply with such Applicable Law, Contractor shall reimburse Employer for all payments required to be made by Employer to such Employers Personnel, governmental authority or any other third party, plus the actual expenses that Employer may incur in investigating, settling or defending any litigation or threatened litigation.

16. PAYMENT:**16.1. BILLS TO BE SUBMITTED MONTHLY**

A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer-in-charge for all Operation and Maintenance works executed in the previous month and Engineer-in-charge shall take cause to be taken the requisite measurement for the purpose of having the same verified and the claim, so far as it is admissible, shall be adjusted, if possible, within ten days from the presentation of the bill. If the contractor does not submit the bill within the time fixed as aforesaid, the Engineer-in-charge may depute a subordinate to measure up the said work in the presence of the contractor or his duly authorized agent whose countersignature to the measurement list shall be sufficient warrant and the Engineer-in-charge may prepare a bill from such list which shall be binding on the contractor on all respects. Delayed submission of bills will attract penalty.

The contractor shall submit all the bills on the printed forms to be had on application at the office of the Engineer-in-charge. The charges to be made in the bills shall always be entered at the rates specified in the agreement or at the partly reduced rates subject to the approval by the Engineer-in-charge. In the case of items not completed/executed as per agreements or in the case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the tender, at the rate here in after provided for such work.

16.2. RETENTION MONEY

5% (five) of the lumpsum fees shall be held back from each payment, as **Retention money** as per Clause 1 of General Conditions of Contract.

16.3. RATES TO BE EXCLUSIVE OF GST BUT INCLUSIVE OF ALL OTHER TAXES

The rates to be quoted by the Contractor must be exclusive of GST but inclusive of all other taxes. GST should be paid extra on the admissible payment as per the approved tender rates and condition of price variation; GST should be paid as per prevailing rates at the time of payment.

16.4. INCOME TAX

Deduction will be made at source on the contractor's bill towards Income tax by the employers as per prevailing rules of the Income tax authority.

16.5. BUILDING AND OTHER CONSTRUCTION WORKS WELFARE CESS (LABOUR CESS)

As per Building and other construction works welfare cess act and the provision under Rule No.5 of the rules of 1998 of Gujarat State, the 1% cess shall be recovered from the running account bill of the contractor.

17. FORCE MAJEURE

In this Clause, "Force Majeure" means an event or circumstance, which materially and adversely affects the ability of the affected Party to perform its obligations.

- i. Which is beyond a Party's control,
- ii. which such Party could not reasonably have provided against before entering into the O & M part of Contract;
- iii. which, having arisen, such Party could not reasonably have avoided or overcome, and

- iv. which is not attributable to the other Party, Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:
- v. war, hostilities (whether war be declared or not), invasion, act of foreign enemies)
- vi. rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war,
- vii. riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel and other employees of the Contractor;
- viii. As result of war, explosive materials, harmful radiation or contamination by radioactivity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
- ix. Natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity. Heavy rainfall, cyclone, strike and lockout.

17.1. NOTICE OF FORCE MAJEURE

- 17.1.1. If a Party is or will be prevented from performing any of its obligations under these Conditions by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 7 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.
- 17.1.2. The Party shall, having given notice, be excused performance of such obligations for so long as such Force Majeure prevents it from performing them.
- 17.1.3. Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

17.2. DUTY TO MINIMIZE DELAY:

- 17.2.1. Each Party shall at all times use all reasonable endeavours to minimize any delay in the performance of the Contract as a result of Force Majeure.
- 17.2.2. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.
- 17.2.3. Notwithstanding anything else herein contained the Employer may terminate the O & M Contract if the Force Majeure event continues for more than a period of 90 days.

18. TERMINATION

Termination shall mean the termination of the O&M Contract by the Employer or the Contractor in accordance with this clause 18.

18.1. TERMINATION BY EMPLOYER

The Employer may terminate the O & M Contract by a notice on:

- i. the dissolution or insolvency of the Contractor, pursuant to an order of a court or the bankruptcy of the Contractor; or;
- ii. if 30 days having passed since the Contractor is in material breach of his obligations under these Conditions, or

- iii. if the Contractor ceases to carry on its business; or
- iv. abandonment; or
- v. The subsisting Force Majeure event as provided in Clause 17.2.3 above or
- vi. If the Employer comes to the decision that the contractor's performance in providing O & M services is not up to the desired level and satisfactory & if the contractor does not materially improve the standard (s) of services offered & result in disruption in water supply of the system, the Employer may discontinue the contract after a performance review at the end of one year. The decision of the competent authority of the Employer shall be final & binding to the contractor (s);
- vii. If the contractor is in breach of the termination conditions mentioned in the penalties section.
- viii. Notwithstanding anything stated hereinabove, the Authority may terminate this Agreement for convenience. The termination shall take effect 30 (thirty) days from the date of notice provided to the Contractor.

18.2. Foreclosure by the authority

- 18.2.1. Without prejudice to any provision of this Agreement, the Authority may foreclose this Agreement in circumstances which does not constitute either party's default without any liability or consequential future liability for either party.
- 18.2.2. Should the authority intend to foreclose this Agreement, the authority shall issue a notice to the contractor, giving at least 30 days' time and informing the intention of authority to cause foreclosure.
- 18.2.3. Any attempt or endeavour for foreclosure shall not stop either of the Parties from discharging their contractual obligations under this Agreement till foreclosure date.
- 18.2.4. For the avoidance of doubt, it is clarified that such foreclosure will be without prejudice to the Contractor and shall not affect the Contractor in any way if it wishes to bid in future projects of the Authority

18.3. PAYMENTS UPON TERMINATION

- 18.3.1. In case, the entire contract is terminated, for default by the contractor, the amount of security deposit and performance bond if any together with the value of the work done but not paid for, shall stand forfeited to the Government.
- 18.3.2. For default by the contractor, registration of the contractor shall be kept in abeyance for three years from the date as fixed in all such cases.
- 18.3.3. Termination of the contract in whole shall be an adequate authority for the Engineer in charge to demand discharge of the obligations from the guarantors of the security for the performance
- 18.3.4. Upon termination or as soon as practicable thereafter an account shall be taken of the net amount owing from the Employer to the Contractor or from the Contractor to the Employer (as the case may be). The Employer shall forthwith pay to the Contractor (if the balance is due to the Contractor) all moneys due to the Contractor. If the account shows a balance due to the Employer from the Contractor, the Contractor shall forthwith pay any such balance to the Employer.

18.4. SUCCESSOR TO THE CONTRACTOR UPON TERMINATION

- 18.4.1. The Contractor shall use all endeavours to facilitate the appointment and commencement of duties of any person to be appointed by the Employer to operate and maintain the facilities (the "Successor Contractor") so as not to disrupt the normal Operation & Maintenance of the facilities and shall provide full access to the Facilities and to all relevant information, data and records relating thereto by the Successor Contractor and its representatives and accede to all reasonable requests made by such persons in connection with preparing for taking over the Operation & Maintenance of the Facilities;
- 18.4.2. Promptly after Termination, the Contractor, shall deliver to (and shall, with effect from Termination, hold on trust for and to the order of) the Employer or (if so required by the Employer by written notice) to the Successor Contractor all property in its possession or under its control owned by the Employer or leased or licensed to the Employer;
- 18.4.3. The Contractor shall transfer to the Successor Contractor, as from the date of Termination, its rights as the Contractor under all contracts entered into by it in the performance of its obligations under these Conditions or relating to the Operation & Maintenance of the Facilities. Pending such transfer, the Contractor shall hold its rights and interests there under for the account and to the order of the Successor Contractor.
- 18.4.4. The Employer shall be reimbursed any cost and expenses incurred by the Employer due to default of the Contractor in discharging its obligations under this Clause [18].
- 18.4.5. The Contractor shall, upon Termination of the O&M part of Contract, co-operate with the Employer and the Successor Contractor and comply with all reasonable requests thereof, including the execution of documents etc.
- 18.4.6. Upon Termination of the O&M Contract on expiry of the terms of the O&M Contract, the Parties agree that: -
- i. The Contractor will use reasonable efforts to ensure a transition to the next Contractor that will avoid operating difficulties for the Facilities.
 - ii. Notwithstanding anything else herein contained the Employer shall be entitled to terminate the O & M Contract, at any time at the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 30 days after issuance of the notice of termination.
 - iii. On the expiry of the O & M Contract or Termination of the O & M Contract, all the installations, works and equipment placed under the Contractor's responsibility shall be handed over to the Employer, at no cost, in good working order, except for normal wear and tear. The Employer may perform any inspections; tests or expert appraisals he shall consider necessary with a view to checking that the property is in good working order. The Contractor shall also hand over any unutilized spares, consumables etc. Purchased for the Facilities.
- 18.4.7. Vacate and handover the Site within 30 (thirty) days of contract termination

18.5. SURVIVAL OF RIGHTS

Notwithstanding anything to the contrary contained in this Agreement, Termination owing to foreclosure by Authority, shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, insurance proceeds, security deposits, and other rights and remedies, which it

may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

19. RISK & COST

The Engineer-in-charge or the Competent Authority defined under rules may, without prejudice to his rights against the Contractor, in respect of any delay or inferior workmanship or otherwise, or any claims for damages in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this Contract or otherwise, and whether the date for completion has or has not elapsed, by notice in writing, absolutely determine the Contract in any of the following cases:

- 19.1.1. If the Contractor having been given by the Engineer-in-charge, a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in any inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirements of such notice for a period of seven days, thereafter, or if the Contractor shall delay or suspend the execution of the work so that either in the judgment of the Engineer-in-charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion or he has already failed to complete the work by that date,
- 19.1.2. If the Contractor, being a company, shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager, on behalf of a creditor, shall be appointed or if circumstances shall arise, which entitle the court or creditor to appoint a receiver or a manager or which entitle the court to make a winding up order,
- 19.1.3. If the contractor commits breach of any of the terms and conditions of this Contract,
- 19.1.4. If the contractor commits any acts in violation of the contract conditions. When the Contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in charge on behalf of the Governor of Gujarat shall have powers: -
 - a. To determine or rescind the contract, as aforesaid (of which determination or rescission notice in writing to the Contractor under the hand of the Engineer-in- charge shall be conclusive evidence), upon such determination or rescission, the earnest money, full security deposit of the contract shall be liable to be forfeited and shall be absolutely at the disposal of Government.
 - b. To employ labour paid by the Department and to supply materials to carry out the work or any part of the work, debiting the Contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certified by the Engineer-in-charge shall be final and conclusive against the contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rates, as if it had been carried out by the Contractor under the terms of this Contract. The certificate of the Engineer-in-charge, as to the value of the work done, shall be final and conclusive evidence against the Contractor provided always that action under the sub-clause shall only be taken after giving notice in writing to the Contractor. Provided also that; if the expenses incurred by the Department are less than the amount payable to the Contractor at his agreement rates, the difference shall not be paid to the Contractor.
 - c. After giving notice to the contractor to measure up the work of the contractor and to take such part thereof, as shall be unexecuted out of his hands, and to give it to another contractor to complete, in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor, if the whole work had been executed by him (of the amount of which excess, the certificate in writing of the Engineer-in-charge shall be final and conclusive) shall be borne and paid by the original Contractor and may be deducted from any

money due to him by Government under this contract or on any other account whatsoever, or from his Earnest Money, Security Deposit, Enlistment Security or the proceeds of sales thereof, or a sufficient part thereof, as the case may be. In the event of any one or more of the above courses being adopted by the Engineer-in-charge, the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of contract. And, in case action is taken under any of provisions aforesaid, the Contractor shall not be entitled to recover or be paid, any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-charge has certified, in writing, the performance of such work and the value payable in respect thereof, and he shall only be entitled to be paid the value so certified. No interest shall be payable to the Contractor on any payment due or awarded by any authority.

20. RECOVERY FROM CONTRACTORS

Whenever any claim against the Contractor for the payment arises under the contract, the Department may be entitled to recover such sum by:

- a. Appropriating, in part or whole of the Performance Guarantee and/or Security Deposit and / or any sums payable under the contract to the contractor.
- b. If the amount recovered in accordance with (a) above is not sufficient, the balance sum may be recovered from any payment due to the contractor under any other contract of the department, including the securities which become due for release.

The department shall, further have an additional right to effect recoveries as arrears of land revenue under the Gujarat Land Revenue Code.

21. INSPECTION

21.1. GENERAL PROVISIONS

- 21.1.1. The Employer may check the operation of the Facilities or designate an organization of his choice to carry out inspections regularly. The Employer or the organization appointed by him shall check that the Contractor is performing the tasks for which he is responsible with due diligence. The Contractor shall at his cost provide all the assistance the Employer requires to complete these inspections.
- 21.1.2. Before any inspection, the Employer shall give prior notice to the Contractor, indicating the name(s) of the person(s) empowered to carry out such inspection in the name of the Employer.

21.2. MEASUREMENT & ANALYSIS

- 21.2.1. The Employer has the right to perform any analysis or inspection he deems necessary. Before any inspection, the Employer shall give a prior written notice to the Contractor.
- 21.2.2. The water quantity, for any such test, analysis or inspection shall be measured by flow-meters installed at the Facility, which are acceptable to the Employer.
- 21.2.3. The flow-meters shall be inspected and certified upon their availability by the Employer and the Contractor. Thereafter, the said meters shall be tested and their accuracy verified once in every six (6) months by the Employer and the Contractor. After each inspection, the flow-meters shall both be sealed in the presence of representatives of the Employer and the Contractor in a manner that is adequate to prevent the tampering of said meters by any person.
- 21.2.4. The Contractor shall be responsible for the security and protection of flow-meters at the designated point. If there is any malfunctioning of the meters, it should be repaired at the Contractor's cost.

9. DEFINITIONS & INTREPRETATION

9.1. DEFINITION

In this document the following words and expressions have the meaning hereby assigned to them.

9.1.1. BIDDER / TENDERER / APPLICANT:

Means individual, proprietary firm, firm in partnership, Limited Company, Corporation applying to become eligible to tender.

9.1.2. ONLINE:

Any activity that is done on website is referred as 'online' activity for e.g., Submission of Bid online would mean that technical & price Bid must be submitted on website.

9.1.3. OFFLINE:

Any activity that is done in conventional route is referred as 'Offline' activity for e.g. "Submission of Tender fee, Earnest Money Deposit, Registration Certificate, Solvency Certificate, etc. in Offline mode" would mean that the tender fee, Earnest Money Deposit, Registration Certificate, Solvency Certificate etc. is to be Submitted to the Office of the concerned Executive Engineer physically.

9.1.4. E- TENDER:

Tender in which the bidder can participate online by means of logging in onto the respective website is called E- Tender.

9.1.5. DIGITAL SIGNATURE:

Any electronic documents, which contains encrypted message digest using hash algorithm and Tender public key is known as Digitally Signed Documents and the process of generating such document is called digitally signing it.

9.1.6. SCANNED COPY:

Electronic Copy of any document generated using a Scanner is called scanned copy.

9.1.7. SYSTEM:

Means the computer which hosts the website (www.gwssb.nprocure.com), using which Bidder participates in the tendering process.

9.1.8. UPLOAD:

The process of transferring electronic document from Bidder's computer using internet connection to the website (www.gwssb.nprocure.com) is called uploading.

9.1.9. IT ACT-2000:

Means Information Technology Act, 2000 of Government of India

9.1.10. APPROVED / APPROVAL:

Means approval in writing.

9.1.11. B.I.S:

Means Bureau of Indian Standards.

9.1.12. Deleted

9.1.13. CONSTRUCTION PLANT:

Means all equipment, appliances or things of whatsoever nature required for the execution, completion or maintenance of the primary work or temporary works but does not include materials or other things intended to form or forming part of permanent work.

9.1.14. CONTRACT:

Means the instruction and information to bidders, general and special conditions of contract, specifications, drawings, schedules of quantities & tender prices, other parts of the Bid Document, the formal agreement between the employer and contractor and all addenda and attachments related to the above.

9.1.15. CONTRACTOR:

Means the bidder with whom the contract has been made for executing the works.

9.1.16. CONTRACT PRICE / CONTRACT AMOUNT:

Means the agreed amount stated in the Contract Agreement for O&M of the works for the stipulated period and to remedy of any defects and includes adjustments (if any) in accordance with the Contract.

9.1.17. CONTRACTOR'S EQUIPMENT:

Means all equipment, tools, apparatus, machinery, vehicles and other things required for the execution and completion of the works and the remedying of any defects. However, Contractor's Equipment excludes Temporary works, Departmental equipment (if any) or plant, materials and any other things intended to form or forming part of the permanent works.

9.1.18. COMPLIANCE WITH LAWS:

The Contractor shall, in performing the Contract, comply with all applicable Laws related to all actions of his obligation as per the contract.

9.1.19. CONTRACTOR'S OBLIGATIONS:

Means the obligation to execute the Project in all its entirety and shall, without limitation, include Operation and Maintenance.

9.1.20. CONTRACTOR'S USE OF EMPLOYER'S DOCUMENTS:

As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Employer's requirements and other documents made by (or on behalf of) the employer. The contractor may, at his own cost, copy, use, and obtain communication of these

documents for the purposes of the contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

9.1.21. COUNTRY:

Means the Country in which the site (or most of it) is located, where the Permanent Works are to be executed.

9.1.22. DAY:

Means a day from midnight to midnight.

9.1.23. DRAWINGS:

Means the drawings referred to in the specifications, any modifications of such drawings approved in writing by the Executive Engineer, and such other drawings as may from time to time be furnished or approved in writing by the Engineer-in-charge.

9.1.24. EMPLOYER / OWNER / DEPARTMENT:

Gujarat Water Supply & Sewerage Board Gujarat, or the person named as Employer or Owner in the Contract Agreement and the legal successor in title to this person.

9.1.25. EMPLOYER'S EQUIPMENT:

Means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Employer's requirements but does not include plant which has not been taken over by the Employer.

9.1.26. EMPLOYER'S USE OF CONTRACTOR'S DOCUMENT:

As between the Parties, the Contractor shall retain the copyright and other intellectual property right of the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed by signing the Contract to give the Employer a non-terminable, transferable, non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- Apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works.
- Entitle any person in proper possession of the relevant part of the works to copy, use and communicate the Contractor's documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the works, and
- In the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the site and other places as envisaged by the Contract, including replacement of any computers supplied by the

Contractor. The Contractor's Documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.

9.1.27. ENGINEER-IN-CHARGE:

Means the Engineer-in-Charge of the works, or in-charge of specified parts of the works under the contract or such other assistants or sub-ordinates to whom the Engineer-in Charge may have delegated certain duties, acting separately within the scope of the particular duties entrusted to them.

The contractor will be given a copy of the GWSSB's authorization designating the Engineer-in-charge by name and delegating him his authority, at the time when contract is signed. It is however, to be distinctly understood that, no delegation of powers shall be made to such assistants or sub-ordinates, except in respect of supervision to ensure compliance of the contract conditions.

9.1.28. Estimated Contract Value / Estimated Cost:

Estimated cost or Put to Tender Cost at the time of publishing the tender online.

9.1.29. EXECUTIVE ENGINEER:

Means the Executive Engineer in overall charge of the works i.e. Engineer In- Charge.

9.1.30. FACILITY:

Means the entire system to be designed and constructed in accordance with the provisions hereof, including the equipment's, buildings, structures, ramps, pits, pipes, pipeline appurtenances, fencing, lighting, testing and analysis equipment, tools, computers, software programs, safety equipment, plant machinery, supplies, instruments and inventory incorporated therein, as well as all open areas within the site, and including any additions, modifications, alterations, adjustments, replacements and repairs as may be made thereto from time to time.

9.1.31. GOVERNMENTAL AUTHORITY / GOVERNMENT:

Means any Indian entity, authority or body exercising executive, legislative, judicial, regulatory or administrative functions, including, without limitation, any Government authority, agency, department, board, commission or instrumentality of Indian or any political subdivision thereof, court, tribunal, arbitrator or self-regulatory organisation.

9.1.32. LAWS:

Means and includes all the provisions of all National (or state) legislation, Indian statutes, regulations, ordinances, codes, official or other standards, administrative or other rules, zoning and other plans and restrictions, building and other permits, judgements awards and decrees of, or agreements with any Governmental, semi-Governmental or quasi- Governmental Authority as currently in effect or as may be in effect from time to time and /or as may be amended or supplemented from time to time.

9.1.33. MAINTENANCE STANDARD:

Means the requirements for maintaining, repairing, and renewing the Facility:

- As set forth in the O&M Manual; bidder shall provide this at the time of commissioning of the project.
- Required pursuant to applicable Law;
- As may be necessary for keeping the facility in a satisfactory working condition such that the Facility will continuously comply with the Operation Standard; and
- As may be necessary to ensure that the Facility shall continuously be in an optimum working condition and state in relation with the lifetime of the Facility.

9.1.34. MATERIALS:

Means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply (only materials if any) to be supplied by the Contractor under the Contract.

9.1.35. MATERIAL SUPPLIER:

Means the person who supplies goods or services. A supplier may be distinguished from a contractor or subcontractor, who commonly adds specialized input to deliverables also called vendor.

9.1.36. MONTH:

Means from the beginning of a given date of calendar month to the end of preceding date of the next calendar month.

9.1.37. O & M MANUAL:

Means the final Manual for the Operation and Maintenance of the Facility to be prepared in accordance with the requirements of Bid Documents.

9.1.38. OPERATION AND MAINTENANCE OBLIGATIONS:

Mean the obligation of the Contractor pursuant to the agreement to operate and maintain the facility on and from the start date of O&M until the date of completion of this Agreement.

9.1.39. OPERATION STANDARD: Means

The Performance Guarantees;

All applicable Laws;

All of the requirements, policies and procedures set forth in the O & M Manual

All other operational requirements set forth in this Agreement.

9.1.40. PERFORMANCE GUARANTEES:

Means the List of Guarantees offered / provided by the Contractor in his Bid Submission pursuant of the Bid Documents.

9.1.41. RUPEE:

Means Indian National Rupees (INR)

9.1.42. SITE:

Means the specific areas / lands and other places on, under, in or through which, the works are to be executed or carried out and any other lands or places provided by the owner for the purposes of the contract together with such other places as may be specifically designated in the Contract or subsequently approved as forming part of the site.

9.1.43. TAKING OVER:

Means, the Owner shall take over the project after contractual completion of the O&M period and meeting all contractual obligations, Terms & Conditions as agreed by the contractor.

9.1.44. TEMPORARY WORKS:

Means all temporary works of every kind required for successful execution of the Contract.

9.1.45. TESTS ON COMPLETION:

Means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out (Test on Completion) before the works or a section (as the case may be) are taken over by the Employer.

9.1.46. WEEK:

Means seven consecutive days.

9.1.47. WORKS:

Means the works / action to be executed in accordance with the contract.

9.1.48. COMPLETION:

Means the date of successfully completion of operations and maintenance of the scheme.

9.1.49. "Applicable Law" means all national (or State) legislation, statutes, ordinances and other Laws and regulations and by laws of any legally constituted public authority.

9.1.50. "Contract" means the contract agreement, these conditions, the employer's requirements, the Tender and the further documents (if any) which are listed in the contract agreement.

9.1.51. "Contractor's Equipment" shall mean all equipment, instruments, tools, machinery and other appliances and things of the Contractor at the Site required for the fulfilment of the obligations of the Contractor under these Conditions.

9.1.52. "Contractor's Personnel" means the contractor's representative and all personal that the contractor utilizes on site, which may include the staff, labour, & other employees of the contractor and of each subcontractor & any other personnel assisting the contractor in the execution of the work.

9.1.53. "Dispute" shall have the meaning given to it in Clause 15 of these Conditions.

- 9.1.54. "Employer's Risk" shall include the risks mentioned as employer's risks in the General Conditions and shall include any negligence or misconduct on the part of the Employer and also any event of Force Majeure as provided in Clause 12 of these Conditions.
- 9.1.55. "Employer's Personnel" means the Employer's Representative, the assistants and all other staff, labour and other employees of the employer and of the Employer's representative, and any other personnel notified to the contractor, by the employer or the employer's representative, as employer's personnel.
- 9.1.56. "Employer's Requirements" means the document entitled employer's requirements, as included in the contract, and any additions and modifications to such document in accordance with the contract. Such document specifies the purpose, scope, and / or design and / or other technical criteria, for the works.
- 9.1.57. "Facility" shall mean the entire system to be designed and constructed including the buildings, structures, ramps, pits, pipes, fencing, lighting, testing and analysis equipment, tools, computers, software programs, safety equipment, plant machinery, supplies, instruments and inventory incorporated therein, as well as all open areas within the Site, and including any additions, modifications, alterations, replacement and repairs as may be made thereto from time to time.
- 9.1.58. "Force Majeure" shall mean those events mentioned in Clause 12 of these Conditions.
- 9.1.59. "General Conditions" shall mean the conditions of tender issued by GWSSB for O&M works of projects.
- 9.1.60. "Good Operating Practices" means the standards, practices, methods and procedures as practiced internationally and in India conforming to all Applicable Law and that degree of skill, diligence, prudence and foresight which would reasonably be expected from a skilled and experienced contractor engaged in India in the same type of undertaking under the same or similar circumstances as the Contractor pursuant to these Conditions.
- 9.1.61. "O & M Contract" shall mean the contract or part of any other contract having scope of operation and maintenance of facilities, entered in between the Employer and the Contractor pursuant to these Conditions.
- 9.1.62. "O & M Completion Certificate" shall mean the certificate to be issued by the Employer on the completion of all the obligations of the Contractor under these Conditions.
- 9.1.63. "O & M Services" shall mean those services specified in Schedule [1] which the Contractor is obligated to perform under these Conditions.
- 9.1.64. "O & M Standard" shall mean the standards:
- a) As set forth in the O & M Manual as accepted by the Employer,
 - b) As required pursuant to Applicable Law;
 - c) Set out in the Performance Guarantee; and
 - d) For the functioning of the Facility as required in accordance with the Contract including such requirements as may be mentioned in the Employer's Requirements.
 - e) For the functioning of the Facilities set forth in these Conditions.

- 9.1.65. "O & M Manual" shall have the meaning for manual of Operation and Maintenance.
- 9.1.66. "O & M Period" shall have the meaning set out in Clause.
- 9.1.67. "O & M Price" shall mean the amount stated in Price Schedule.
- 9.1.68. "Party" shall mean each of the Contractor and the Employer and Parties shall mean both of them together.
- 9.1.69. "Performance Guarantees" shall mean the guarantee that the Facility shall be operated satisfying the minimum performance parameters set out in Schedule.
- 9.1.70. "Successor Contractor" shall have the meaning given to it in Clause.
- 9.1.71. "Site" shall mean that specific area specified in the bid documents & shall include any other places as may be specifically designed by the employer from the time to time as forming part of the site.
- 9.1.72. "Taking over Date" shall mean the date of issue of the taking over certificate at the end of Operation and Maintenance period.
- 9.1.73. "Taking Over Certificate" means the certificate to be issued by employer to the contractor at the successful completion of the Operation and Maintenance period.
- 9.1.74. "Termination" shall have the meaning given to it in Clause [13] of these Conditions.

9.2. INTERPRETATION

In these Conditions, except where the context requires otherwise.

- a) words indicating one gender include all genders,
- b) words indicating the singular also include the plural and words indicating the plural also include the singular,
- c) Provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing;
- d) "written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record;
- e) The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions;
- f) The words "include", "includes" and "including" is not limiting;
- g) As used in these Conditions, all defined terms include the plural as well as the singular;
- h) Any agreement, document or drawing defined or referred to in these Conditions shall include amendment, modification and supplement thereto and waiver thereof as maybe come effective from time to time, except where otherwise indicated;
- i) Any reference to any Clause or Sub – Clause shall unless specified otherwise mean Clause or Sub-Clause of these Conditions; and
- j) Any rights of the Employer to make any inspections or to review any document shall not create any obligation on the Employer to conduct such inspections or reviews to detect any errors, inaccuracies, ambiguities or other potential problems. No inspection or approval by or on behalf of the Employer shall operate as a waiver of any provision of these Conditions, any obligation of Contractor under these Conditions, or any of the rights of the Employer hereunder, except as expressly agreed in writing by the Employer.

10. SPECIAL CONDITIONS OF CONTRACT

These conditions are applicable for the project activities mentioned in Part C BOQ.

(Applicable for Part C activities)

10.1. LIQUIDATED DAMAGES FOR DELAY

If the contractor does not complete the entire work under the scope on the date of Completion, (i.e. 100% of the physical progress at the end of 100% of the time of completion), Liquidated damages at the rate of 0.1% of contract value per day of delay subjected to the maximum amount of 10% of the Estimated amount put to tender or total contract value whichever is higher, shall be recovered from the contractor. In such case, the amount retained as deposit shall be converted into liquidated damages.

(add interim milestone schedule if required)

10.2. EXTENSION OF TIME LIMIT

If the contractor shall desire an extension of the time for completion of the work on the ground of his having been unavoidably hindered in its execution or any other ground he shall apply in writing to the Engineer -in- charge before the expiration of the period stipulated in the tender or before the expiration of 30 days from the date on which he was hindered whichever is earlier and the Engineer-in-charge may, if in his opinion, believe that there are reasonable grounds for granting an extension, grant such extension, as he thinks necessary or proper. The decision of the competent authority of GWSSB in this matter shall be final.

-----End of Document-----