



## GOVERNMENT OF KERALA

### Abstract

Local Self Government Department - AMRUT 2.0 - Request for Proposal (RFP) for Selection of PDMC - Modified - Orders Issued

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### LOCAL SELF GOVERNMENT (DC) DEPARTMENT

G.O.(Rt)No.1276/2023/LSGD Dated,Thiruvananthapuram, 19-06-2023

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- Read 1 G.O.(Rt)No.565/2022/LSGD dated 09-03-2022  
2 G.O.(Rt)No.1973/2022/LSGD dated 15.08-2022  
3 Letter No. SMMU/61/2022-UP1 dated 02.03.2023 of the Mission Director, AMRUT  
4 Letter No. SMMU/61/2022-UP1-2 dated 24.04.2023 of the Mission Director, AMRUT  
5 Minutes of the meeting to review the revision of RFP for the selection of PDMC by the ACS, LSGD on 26.5.2023  
6 Letter No. SMMU/61/2022-UP1 dated 17.06.2023 of the Mission Director, AMRUT

### ORDER

As per GO read as 1<sup>st</sup> paper above, Government have entrusted Centre for Management Development (CMD) to co-ordinate the RFP calling for recruitment of Consulting Firm as Project Development and Management Consultant (PDMC) for AMRUT 2.0 in order to perform the evaluation and selection process on behalf of State Government. As per G.O read as 2<sup>nd</sup> paper above, Government have approved RFP for Selection of PDMC for AMRUT 2.0.

2. As per the letter read as 3<sup>rd</sup> paper above, Mission Director, AMRUT has reported that approved RFP published on the CMD portal and 6 proposals were received. The evaluation committee had rejected two proposals due to the submission of multiple online bids and the remaining four bids were opened in the technical bid opening meeting. the 2<sup>nd</sup> & 3<sup>rd</sup> Consultant Selection Committees held on 03.12.2022 and

16.12.2022 evaluated the technical proposals. Since all four bidders were eligible for financial bid opening, based on the decision of the 6<sup>th</sup> SLTC Meeting, the 4<sup>th</sup> Consultant Selection Committee of PDMC held on 04.01.2023 opened the financial bid of four eligible bidders and identified M/s. URS Scott Wilson India Pvt. Ltd. in JV with M/s. AECOM India Pvt. Ltd and SHREYAS and Earnst & Young LLP in JV with Water sanitation and Hygene Institute (WASH Institute) as H1 and H2 bidder

3. As per the method of selection given in the Datasheet (Part II of Section 2 of the RFP document), commercial bids less than 70 percent cost of the average lump sum remuneration cost had to be disqualified. Accordingly, the bidder with the highest technical score had to be rejected during the financial evaluation. Since the price bid quoted by the first ranked (H1) bidder was nearly twice the same quoted by the bidder with the highest technical score and it would result in a financial loss if the H1 bidder is awarded the contract at their negotiated rate, as per the letter read as 4<sup>th</sup> paper above, the Mission Director, AMRUT has reported that, action has been initiated to cancel the current tender process and to re-tender the service of PDMC after revising the scope of work and modifying the arbitrary RFP conditions.

4. As per the minutes read as 5<sup>th</sup> paper above, meeting chaired by the Additional Chief Secretary, LSGD has reviewed the revision of relevant clauses of RFP along with reason for revision and approved the modifications to be made in RFP for the selection of PDMC

5. As per the letter read as 6<sup>th</sup> paper above, Mission Director, AMRUT has submitted a proposal for according sanction for the modifications in RFP according to the

1. approved modifications for Section 1-4
2. required changes in Section-6 as per the new scope of work
3. new scope of work that covers the following 8 Activities, its payment schedule etc. in Section 5

- i) Preparation of DPRs for 24X7 Water supply projects for the selected wards/ DMAS in the 10 Urban Local Bodies."
- ii) Action Plan for Reduction of Non-Revenue Water (below 20%) in the 10 Urban Local Bodies
- iii) Preparation of digital base maps for the existing, proposed, and executed sewer networks in the entire area of Thiruvananthapuram ULB.
- iv) Preparation of Aquifer Management Plan for 6 AMRUT 1.0 cities.

- v) IEC activities and community mobilization.
- vi) Preparation of the Micro water supply projects in 9 AMRUT cities.
- vii) Preparation of DPRs for Sewerage & Septage projects in 9 AMRUT 1.0 cities & Action plan for the 100% coverage of sewerage and septage facilities of the Cities.
- viii) Progress Monitoring of 93 Urban Local Bodies

6. Government have examined the matter and are pleased to modify the Section 1-4 , Section-6, Section 5: Terms of reference of RFP for Project Development and Management Consultant (PDMC) for AMRUT 2.0 approved vide GO read as 2<sup>nd</sup> paper above, as appended as Annexure 1, Annexure 2 and Annexure 3 to this Government Order.

7. The Request for Proposal (RFP) for Selection of PDMC approved vide Government Order read as 2<sup>nd</sup> paper above stands modified to the above extend.

(By order of the Governor)  
SARADA MURALEEDHARAN I A S  
ADDITIONAL CHIEF SECRETARY

To:

The Mission Director, AMRUT  
The Principal Accountant General (A&E) Kerala  
Thiruvananthapuram  
The Accountant General (Audit I/Audit II), Kerala  
Thiruvananthapuram  
The Information Officer, I&PRD (Web & New Media)  
The Executive Director, Information Kerala Mission.  
Stock File / Office Copy.

Forwarded /By order

Signed by  
Danuja M S  
Section Officer  
Date: 19-06-2023 17:30:30

Copy to:

Private Secretary to Hon'ble Minster for LSGD  
PA to Additional Chief Secretary, LSGD

## ANNEXURE-1

### Modifications in each RFP clause of Sections 1-4

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
Section 2 – Part I/ Clause 9.3.b.	The estimated number of Professional staff months for the Assignment/job is as shown in the Part II Datasheet. <b>However, the Proposal shall be based on the number of professional staff months or budget estimated by the Consultants.</b> While making the proposal, the consultant must ensure that he proposes the minimum number and type of experts as sought by the Employer, failing which the proposal shall be considered as non-responsive.	The estimated number of key Professional staff months for the Assignment/job is as shown in the Part II Datasheet. <b>However, the Proposal shall be based on the budget estimated by the Consultants.</b> While making the proposal, the consultant must ensure that he proposes the minimum number and type of experts as sought by the Employer, failing which the proposal shall be considered as non-responsive.	The financial proposal was modified to a lumpsum financial quote.
Section 2 – Part I/ Clause 9.4.a.	..... Consultants should be prepared to substantiate the claimed experience along with the proposal and must submit the completion certificates from the Client for consideration for eligibility. For ongoing projects, 80% completed works only shall be considered.	..... Consultants should be prepared to substantiate the claimed experience along with the proposal and must submit the completion certificates from the Client for consideration for eligibility. All such certificates should have details like scope of work, role of the consultant, date of commencement of assignment, date of completion of the assignment, and value of	Points added for better assessment of the work experience claimed by consultants.

## ANNEXURE-1

<b>Section No./ Clause No.</b>	<b>Original Clause</b>	<b>Revised Clause</b>	<b>Reason for revision</b>
		the assignment. If such certificates are in local languages (languages other than English), consultants are requested to submit English translation of the certificate duly certified by the Competent authority along with the original one. For ongoing projects, 80% completed works only shall be considered.(Refer Clause 9.4 C)	
<b>Section 2 – Part I/ Clause 9.4.b.</b>	Comments and suggestions on the Terms of Reference including workable suggestions that could improve the quality/ effectiveness of the Assignment/job; and on requirements for counterpart staff and facilities including administrative support, office space, domestic transportation, equipment, data, etc., to be provided by the Employer (Form TECH-3 of Section 3).	Comments and suggestions on the Terms of Reference including workable suggestions that could improve the quality/ effectiveness of the Assignment/job (Form TECH-3 of Section 3).	Consultants are liable to arrange the required facilities.

## ANNEXURE-1

<b>Section No./ Clause No.</b>	<b>Original Clause</b>	<b>Revised Clause</b>	<b>Reason for revision</b>
<b>Section 2 – Part I/ Clause 9.4.c.</b>	.....The work plan should be consistent with the Work Schedule (Form TECH-8 of Section 3) which will show in the form of a bar chart the timing proposed for each activity.	.....The work plan should be consistent with the Work Schedule (Form TECH-8 of Section 3) which will show in the form of a bar chart the timing proposed for each activity. Technically qualified Consultants/ Firms have to make a presentation on the Technical Approach and Methodology, Work plan and Staffing Schedule before the Consultant Selection Committee on the date and time suggested by SMMU. The award of marks for proposed methodology and work plan shall be based on the document submitted and the technical presentation by the consultants.	A detailed presentation of the proposed approach and methodology will help in better assessment of the Consultant.
<b>Section 2 – Part I/ Clause 9.6</b>	The Financial Proposal shall be prepared using the attached Standard Forms (Section 4). It shall list all costs associated with the Assignment/Job, including (a) remuneration for staff and (b) reimbursable expenses indicated in the Part II Data sheet. If appropriate, these costs should be broken down by activity, and if appropriate, into foreign (if applicable) and domestic	The Financial Proposal shall be prepared using the attached Standard Forms (Section 4). The financial proposal shall not include any conditions attached to it and any such conditional financial proposal shall be rejected summarily.	Only the total contract amount and the activity-wise split up are required

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
	expenditures. The financial proposal shall not include any conditions attached to it and any such conditional financial proposal shall be rejected summarily.		
Section 2 – Part I/  Clause 19.1 & 19.2		<p>19.1 SMMU, AMRUT 2.0 Kerala reserves the right to amend/modify any or all provisions of this RFP document and such revisions/amendments to the RFP shall be published in the website of Centre for Management Development (<a href="http://www.kcmd.in">www.kcmd.in</a>).</p> <p>19.2 Notwithstanding anything contained in this RFP, SMMU AMRUT 2.0 Kerala reserves the right to accept or reject any proposal and to annul the selection process and reject all proposals, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.</p>	Clause regarding the right to amend/change/cancel the RFP added.
<b>INSTRUCTIONS TO CONSULTANTS</b>	The estimated number of Professional man months required for the Assignment/job is: 570	The estimated number of key Professional staff-months required for the Assignment/job is:	Number of key professionals increased from 6 experts to 9 full time/ parttime experts.

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
<b>PART-II Data Sheet</b>		Key Professionals - 171	Man Months reduced from 570 (incl. Sub professionals) to 171.
<b>Section 2 – Part II/ Eligibility Criterion – 1</b>	The Bidder shall be registered at least ten years prior to the date of Advertisement .....	The Bidder shall be registered at least five years prior to the date of Advertisement .....	For ensuring participation of more bidders, eligibility criterion regarding years of existence has been lowered from 10 to 5.
<b>Section 2 – Part II/ Eligibility Criterion – 2</b>	The firm/consultant/ organization should have Annual Average Turnover of last three years in consultancy work ending on FY 2020-2021 not less than 25 Crores.	The firm/consultant/organization should have Annual Average Turnover of last three years not less than 25 Crores in Project Management or related consultancy work ending on FY 2021-22.	Turnover from Project Management or related consultancy services only may be considered. FY also updated.
<b>Section 2 – Part II/Eligibility Criterion – 3</b>	Net Worth of the bidder should be positive as on the last date of the previous Financial Year	Net Worth of the bidder should be positive as on the last date of the previous Financial Year (FY 2021-22)	FY updated.
<b>Section 2 – Part II/ Eligibility Criterion – 4</b>	The firm/consultant/organization should have proven experience for providing PDMC services /Project Management Units/ Support Units/ Technical Support or	The firm/consultant/organization should have proven experience for providing <b>PDMC services /Project Management Units/ Support Units/ Technical Support or</b>	Criterion changed based on the change of scope. The services included in the original scope were



## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
	Coordinator Consultants /Project Planning and Design Consultants for similar assignments.(Similar assignments- Water Supply/ Wastewater sector projects)	<b>Coordinator Consultants for similar assignments at government levels (Central/ State/ Municipal).</b> (Similar assignments- Water Supply/ Wastewater sector projects)	to provide technical support consultants for SMMU, CMMUs & ULBs. Now the scope has been revised to assist ULBs mainly in conducting detailed engineering designs of 24X7 water supply schemes, sewerage/septage management, and micro water supply systems.
<b>Section 2 – Part II/ Eligibility Criterion – 7</b>	Bidder should not be debarred/ blacklisted by any Central/ State Government in India.	Bidder should not be debarred/ blacklisted by any Central/ State Government in India. The Consulting Firms (Lead Consultant and Partnering Institutions) shall submit an undertaking stating that the firm is not Blacklisted by State or Central Government or any Public Sector undertaking.	An Undertaking to be provided by the Consultant

## ANNEXURE-1

<b>Section No./ Clause No.</b>	<b>Original Clause</b>	<b>Revised Clause</b>	<b>Reason for revision</b>
<b>Section 2 – Part II/ Evaluation Criterion – A</b>	Number of years in existence of the firm Minimum 10 Years and up to 25 Years - 03 Marks; and More than 25 Years - 05 Marks	Number of years in existence of the firm Minimum 5 Years and up to 10 Years - 03 Marks; and More than 10 Years - 05 Marks	For ensuring participation of more bidders, eligibility criterion regarding years of existence has been lowered from 10 to 5. Scoring changed accordingly. Total score remains same.
<b>Section 2 – Part II/ Evaluation Criterion – B</b>	Annual Average Turnover of last three years ending on FY 2020-2021 Sub criteria 1) INR 25 – 50 crore – 3 marks 2) INR 50 – 75 crore – 7 marks 3) More than INR 75 crore – 10 marks	Annual Average Turnover from Project Management or related consultancy services of last three years ending on FY 2021-2022 Sub criteria 1) INR 25 – 50 crore – 3 marks 2) INR 50 – 75 crore – 7 marks 3) More than INR 75 crore – 10 marks	Turnover from Project Management or related consultancy services only may be considered.  No change in Scoring.
<b>Section 2 – Part II/ Evaluation Criterion – C</b>	Experience of large-scale Program Management Units  Number of successfully completed assignments in providing large Project Management	<b>Experience as Design, Supervision and procurement consultant in urban (Water Supply) sector with value of contract (for consultancy service) of at least Rs. 5.00 Cr.</b>  <b>They should have implemented at least</b>	Criterion changed based on the experience in developing 24/7 WSS.  Scoring criterion

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
	<p>Consultancy/PMU/PDMC/Technical Support Unit (TSU) / Technical Support Agency (TSA) for Central / State Government/ International Funding Agency having minimum consultancy fee of Rs. 5.00 Crore and duration not less than 1 year during last 5 years</p> <p>One (01) Assignment – 05 Marks.</p> <p>More than one (01) assignment – 05 Marks + 2.5 additional mark for each additional assignment subject to maximum of 10 Marks.</p>	<p><b>one Water supply schemes like Drink from Tap 24/7 schemes or similar works with innovative solutions like SCADA</b></p> <p><b>(1 mark per project subject to maximum 10 marks)</b></p>	<p>changed. Total score remains same.</p>
<p><b>Section 2 – Part II/ Evaluation Cri. – D</b></p>	<p>Experience of water/liquid waste management assignments</p> <p>Number of completed assignments providing Consultancy Services for Central / State Government / International Funding Agency in the Water or Liquid Waste or Used Water Management Sector having minimum Consultancy fee of Rs. 1.00 Crore and duration not less than 1 year during last 5 years</p>	<p>Experience as Design and /or Supervision consultant in urban (Sewerage and Septage) sector issues with value of contract (for consultancy service) of at least Rs. 100 lakh.</p> <p>They should have designed/supervised/implemented at least one Septage Treatment Plant of capacity not less than 50 KLD Capacity.</p>	<p>Criteria D splitted into D&amp;E .Criteria changed based on the experience in developing Septage treatment plant.</p> <p>Scoring criterion &amp; Total score changed.</p>

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
	One (01) Assignment – 05 Marks; More than one (01) assignment – 05 Marks + 2.5 additional mark for each additional assignment subject to maximum of 15 Marks.	(1 mark per project subject to maximum 10 marks)	
<b>Section 2 – Part II/ Evaluation Cri. – E</b>		Experience of carrying out studies in Urban Sector (City development/ Strategic Plan, Master plans, City Sanitation Plans, Baseline Assessments, , Non-revenue water study, GIS mapping) and preparation of digitalized map of existing water supply network/ Sewerage network ( 0.5 marks per project subject to maximum 5 marks)	Criteria D splitted into D&E.  E is based on the experience in NRW Assessment/ preparation of digitized map..
<b>Section 2 – Part II/ Evaluation Cri. – F (Original clause-E)</b>	Team Leader – 5 Marks Education Qualification – 03 Marks Years of Experience – 02 Marks Water Sector Expert -4 Marks Education Qualification – 02 Marks Years of Experience – 02 Marks	1) Team Leader – 4 Marks Education Qualification – 02 Marks Years of Experience – 02 Marks 2) Hydraulic Network Engineer-2.5 Marks Education Qualification – 1.5 Marks	Number of key professionals increased from 6 experts to 9 full time/ parttime experts .  <b>Mark for Design Engineer (Wastewater) cum Environmental</b>

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
	<p>Used Water Expert – 4 Marks</p> <p>Education Qualification – 02 Marks</p> <p>Years of Experience – 02 Marks</p> <p><b>Procurement cum Contract Management Expert – 4 Marks</b></p> <p>Education Qualification – 02 Marks</p> <p>Years of Experience – 02 Marks</p> <p><b>Social Mobilization cum IEC Expert – 4 Marks</b></p> <p>Education Qualification – 02 Marks</p> <p>Years of Experience – 02 Marks</p> <p><b>MIS cum Data Analyst – 4 Marks</b></p> <p>Education Qualification – 02 Marks</p> <p>Years of Experience – 02 Marks</p>	<p>Years of Experience – 1 Mark</p> <p>3) Design Engineer (Water Supply) - 2.5 Marks</p> <p>Education Qualification – 1.5 Marks</p> <p>Years of Experience – 1 Mark</p> <p>4) SCADA &amp; Instrumentation Expert- 2.5 Marks</p> <p>Education Qualification – 1.5 Marks</p> <p>Years of Experience – 1 Mark</p> <p>5) Design Engineer (Wastewater) cum Environmental Management Expert – 3 Marks</p> <p>Education Qualification – 2 Marks</p> <p>Years of Experience – 1 Mark</p> <p>6) Procurement cum Contract Management Expert – 2.5 Marks</p> <p>Education Qualification – 1.5 marks</p>	<p><b>Management Expert and Social Mobilization cum IEC Expert kept as 3 as per the meeting decision.</b></p>

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
		Years of Experience – 1 Mark 7) GIS/RS Specialist-2.5 Marks Education Qualification – 1.5 Marks Years of Experience – 1 Mark 8) Hydrogeologist-2.5 Marks Education Qualification – 1.5 Marks Years of Experience – 1 Mark 9) Social Mobilization cum IEC Expert – 3 Marks Education Qualification – 2 Marks Years of Experience – 1 Mark 7) GIS/RS Specialist-2.5 Marks	
<b>Section 2 – Part II/ Evaluation Criterion – G</b>	The Applicant will submit a write up on the methodology and project plan to attain project objectives.  MAX 25 MARKS	The Applicant will submit a write up on the methodology and project plan to attain project objectives.  The applicant will have to make a presentation on the Technical Approach and	For better assessment of the Consultant’s understanding of assignment, a technical presentation is also

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
<b>(Original clause-F)</b>		<p>Methodology, Work plan and Staffing Schedule <b>based on the write up</b> before the Consultant Selection Committee on the date and time suggested by SMMU.</p> <p><b>MAX 25 MARKS</b></p> <p><b>Write up on Methodology &amp; work plan- 15 marks</b></p> <p><b>Presentation – 10 Marks</b></p>	<p>proposed.</p> <p>Scoring criterion changed. Total score remains same.</p>
<p><b>Section 2 – Part II/</b></p> <p><b>Evaluation Criterion – G</b></p>	<p>Partnering with a reputed and qualified NGOs/ Registered Societies/ civil societies / Academic Institutions with relevant experience in the wastewater sector</p> <p>Partnering Institution’s eligibility (Mandatory Criteria):</p> <p>1) Experience in Water and Sanitation sector - in service delivery, implementation &amp; monitoring, and</p> <p>2) Experience in Community engagement, Information, Education &amp; Communication (IEC)</p>	<p>Partnering with a reputed and qualified NGOs/ Registered Societies/ civil societies / Academic Institutions with relevant experience in the wastewater sector</p> <p>Partnering Institution’s eligibility (Mandatory Criteria):<i>Proper document proof to be submitted - Copy of completion Certificate (for completed works)/80% completion certificates (for on-going works).</i></p> <p>1) <b>Minimum three years of</b> experience in Water and Sanitation sector - in service delivery, implementation &amp; monitoring, and</p> <p>2) <b>Minimum three years of</b> experience in</p>	<p>Minimum 03 years mandated in both sectors.</p>

## ANNEXURE-1

Section No./ Clause No.	Original Clause	Revised Clause	Reason for revision
		Community engagement, Information, Education & Communication (IEC)	
<b>Section 2 – Part II/ Clause 15.7 – Method of Selection</b>	For financial evaluation, the total estimated remuneration cost indicated in the Breakdown of Remuneration (FORM FIN-3) shall be considered.		Clause removed, as financial proposal is lumpsum amount.
	Commercial bids with less than 70% cost of average lump sum remuneration cost, shall be disqualified. Average lump sum remuneration cost shall be calculated as the average cost of at least three (3) of the lowest bidders, excluding the cost of L1.		Clause removed.
<b>Section 3/ FORM TECH-2B</b>		FYs changed to 2019-20, 2020-21 and 2021-22	
<b>Section 3/ FORM TECH-3</b>	B - On Inputs and Facilities to be provided by the employer  [Comment here on Inputs and facilities to be provided by the Employer according to		Clause removed.



## ANNEXURE-1

<b>Section No./ Clause No.</b>	<b>Original Clause</b>	<b>Revised Clause</b>	<b>Reason for revision</b>
	Paragraph 6 of the Part II Special information to consultants including: administrative support, office space, Domestic transportation, equipment, data, etc.]		
<b>Section 4/ FORMS FIN-2</b>			FORM FIN-2 revised w.r.t. the revised scope of work
<b>Section 4/ FORMS FIN-3 &amp; FIN-4 and Appendix Note</b>			FORM FIN-3 & FORM FIN-4 and Appendix Note for Preparation of Financial Proposal not needed

**ANNEXURE 2**

**The changes proposed in RFP clauses of Section-6- Special Conditions of Contract (SCC)**

SC Clause	GC Clause	Original Clause (GCC/SCC)	Revised Clause	Reason for revision
14	4.2 (c)	<b>Description of Personnel:</b>  (c) If additional work is required beyond the scope of the Services specified in Appendix A, the estimated periods of engagement of Key Personnel set forth in Appendix C may be increased by agreement in writing between the “Employer” and the Consultant. In case where payments under this Contract exceed the ceilings set forth in Clause GC 6.1(b) of this Contract, this will be explicitly mentioned in the agreement.	<b>Description of Personnel:</b>  (c) The Consultant will be liable to carry out the work beyond the scope of the Services specified in Appendix A, up to an extent of +/- 25%, at pro-rata basis.	The modification is required due to the change in Scope of works and its payment schedule.

**ANNEXURE 2**

SC Clause	GC Clause	Original Clause (GCC/SCC)	Revised Clause	Reason for revision
15	4.4 (c)	<p><b>Removal and/or Replacement of Personnel:</b></p> <p>(c) Any of the Personnel provided as a replacement under Clauses (a) and (b) above, as well as any reimbursable expenditures (including expenditures due to the number of eligible dependents) the Consultants may wish to claim as a result of such replacement, shall be subject to the prior written approval by the “Employer”. The rate of remuneration applicable to a replacement person will be the rate of remuneration paid to the replacement person. Also (i) the Consultant shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and (ii) the remuneration to be paid for any of the Personnel provided as a replacement shall not exceed the remuneration which would have been payable to the Personnel replaced.</p>	<p><b>Removal and/or Replacement of Personnel:</b></p> <p>(i) the Consultant shall bear all additional remuneration, travel and other costs arising out of or incidental to any removal and/or replacement, and (ii) the remuneration to be paid for any of the Personnel provided as a replacement shall not result in any increase in the contact amount agreed.</p>	<p>The modification is required due to the change in Scope of works and its payment schedule.</p>

**ANNEXURE 2**

SC Clause	GC Clause	Original Clause (GCC/SCC)	Revised Clause	Reason for revision
16	4.4 (d)	<p><b>Removal and/or Replacement of Personnel:</b></p> <p>(d) Any of the need for replacement of Core team members beyond Clauses (a) and (b) shall be allowed up to two replacements. After the first two replacements it shall attract a deduction of 10% of the remuneration quoted for the position for up to another two replacements. Any subsequent replacements of Core team members shall attract 20% deduction of remuneration quoted for the position.</p>	<p><b>Removal and/or Replacement of Personnel:</b></p> <p>(d) The first two replacements of core team professionals shall attract a deduction of 0.05% for each replacement of the total contract amount, and subsequent replacements of core team professionals shall attract a deduction of 0.1% for each replacement of the total contract amount.</p>	<p>The modification is required due to the change in Scope of works and its payment schedule.</p>
20	6.3	<p><b>Terms of Payment:</b></p> <p>1) 5% of the Contract Value will be paid in <b>advance</b>, if so desired, on submission of bank guarantee of the amount equal to 110% of the advance sought by the Consultant.</p> <p>2) The First instalment of recovery shall be effected form each running bill paid immediately following the payment of</p>	<p><b>Terms of Payment:</b></p> <p>1) <b>5 %</b> of the Contract Value (Activity wise) will be paid in advance after approval of the inception report(Activity wise) by the Client, if so desired, on submission of bank guarantee of the amount equal to 110% of the advance sought by the Consultant.</p> <p>2) <b>The</b> First instalment of recovery</p>	<p>In the meeting held on 26.5.2023, it was decided to verify the possibility of granting a Mobilization advance to the Consultants and the permissible amount of maximum advance &amp; its conditions. Hence the clause was revised as “5 % of the</p>

**ANNEXURE 2**

SC Clause	GC Clause	Original Clause (GCC/SCC)	Revised Clause	Reason for revision
		<p>mobilisation advance and the last instalment of the recovery shall be affected during the third month preceding the month in which the due date of completion falls. The various instalments of recovery shall be of equal amounts.</p> <p>3) <b>Remuneration of Personnel</b> as indicated in Financial proposal submission Form Fin 3, and as agreed during Negotiations, will be reimbursed on monthly basis as per this contract according to the agreed work plan;</p> <p>4) <b>Payment for Reimbursable Expenses</b> as indicated in Financial proposal submission Form Fin 4, be reimbursed on actual/ and as agreed during Negotiations and as per Appendix of Financial Proposal – Section 4.</p> <p>5) Failure on the part of the Consultant to perform any part of its services or breach in achieving deliverables as per schedule shall attract liquidated damages.</p> <p>6) If the deliverables are not submitted as</p>	<p>shall be affected from the first running bill paid immediately following the payment of mobilisation advance and the last instalment of the recovery shall be effected from the second running bill. The two instalments of recovery shall be of equal amounts.</p> <p>3) <b>Payment</b> will be in accordance with the Payment schedule specified in contract (Appendix F).</p> <p>4) deleted.</p> <p>5) Failure on the part of the Consultant to perform any part of its services or breach in achieving deliverables as per schedule shall attract liquidated damages.</p> <p>6) If the deliverables are not submitted as per schedule or as accepted by the Employer, the Consultant shall be liable to pay 1% of the total cost of the services (for the respective activity) for delay of each week or part</p>	<p>Contract Value (Activity wise) will be paid in advance approval of the <b>inception report (Activity wise) by the Client.</b></p> <p>The modification is required due to the change in Scope of works and its payment schedule.</p>

**ANNEXURE 2**

SC Clause	GC Clause	Original Clause (GCC/SCC)	Revised Clause	Reason for revision
		<p>per schedule or as accepted by the Employer, the Consultant shall be liable to pay 1% of the total cost of the services for delay of each week or part thereof.</p> <p>7) If the deliverables are not acceptable to the Employer, and defects are not rectified to the satisfaction of the Employer within 30 days of the receipt of the notice, the Consultant shall be liable for Liquidated Damages for an amount equal to 0.5% of total cost of the services for every week or part thereof for the delay</p>	<p>thereof.</p> <p>7) If the deliverables are not acceptable to the Employer, and defects are not rectified to the satisfaction of the Employer within 30 days of the receipt of the notice, the Consultant shall be liable for Liquidated Damages for an amount equal to 0.5% of total cost of the services (for the respective activity) for every week or part thereof for the delay</p>	
21	8	<p>Arbitration shall not be a measure of resolution. If the conciliation talks referred above does not become fruitful then, it can be referred to the Chief Secretary, Government. If the attempt for resolution by Chief Secretary fails then it can be challenged in the court of law for which the jurisdiction should be Thiruvananthapuram alone.</p> <p>The Court case proceedings shall take place</p>	<p>Arbitration shall not be a measure of resolution. The Court case proceedings shall take place in Kerala in India.</p>	<p>Modified based on KIIFB contracts.</p>

**ANNEXURE 2**

SC Clause	GC Clause	Original Clause (GCC/SCC)	Revised Clause	Reason for revision
		in Kerala in India.		
22	11	The Performance Security amount is 3 % of the Contract Value.	The Performance Security amount is 5 % of the Contract Value.	Earlier, due to the unprecedented impact of the covid-19 pandemic, the Government had decided to reduce the performance security amount to 3% of the Contract, which was valid till March 2023.

## Section 5. Terms of Reference

### Government of Kerala

#### **Terms of Reference for the hiring of a Project Development and Management Consultant (PDMC) for performance improvement and accelerated implementation of AMRUT 2.0 in Kerala**

##### **1. Brief description of the task**

This Terms of Reference provides the outline of the consulting services to assist the Urban Development Department of Kerala in implementing the Mission requirements of AMRUT 2.0 in the state. This work will be carried out by a Project Development and Management Consulting firm, henceforth referred to as 'Project Development and Management Consultant (PDMC)' on behalf of AMRUT 2.0 Mission of Kerala.

##### **2. Background**

AMRUT 2.0 is a step towards Aatma Nirbhar Bharat with the aim of making the cities 'water secure' and providing functional water tap connections to all households. This will be achieved through the circular economy of water by effecting Water Source Conservation, Rejuvenation of water bodies and wells, Recycle / Reuse of treated Used water, and Rain water harvesting by involving the community at large. This Mission will be run as a people's program i.e., Jan Aandolan. The mission also targets to provide 100% Sewerage/ Septage management in 500 AMRUT cities. The mission will focus on empowering States/ UTs and cities for efficient implementation of projects in the spirit of cooperative and competitive federalism by providing flexibility to the States/ UTs to formulate, plan and implement the projects. In Kerala, all 93 ULBs are taken up under AMRUT 2.0. The total outlay of AMRUT 2.0 is Rs. 3500 crores.

It is proposed under AMRUT that States may appoint Project Development and Management Consultant (PDMC) as an end-to-end consultant for the efficient implementation of AMRUT 2.0 objectives in the state.

SMMU ("SMMU" refers to the State Mission Management Unit set up in Kerala for the implementation of components defined under AMRUT 2.0.) AMRUT Kerala is the Executing Agency (EA) for the AMRUT 2.0 program.

The duration of service is for 30 months and the consultancy period may be increased/ decreased as desired by the authority.

##### **3. Objectives**

The objective of the assignment is to provide project development & management consultancy services including the preparation of Detailed Project Reports with value



engineered digital hydraulic network model (in Water Gems/ EPANET) and attributes of the Internet of Things (IoT) for water quality monitoring, Smart meters installations for accurate monitoring, improved efficiency, predictive maintenance, and customer engagement toward SCADA based Water supply projects (to supply 'Drink from Tap' Quality piped drinking water to citizens on a 24x7 basis as per the AMRUT 2.0 guidelines and CPHEEO guidelines); preparation of digital base maps for the existing, proposed, and executed sewerage networks in Thiruvananthapuram city; preparation of Action Plan for Reduction of Non-Revenue Water (below 20%); preparation of Urban Aquifer Management plan; development of Micro water supply projects, Sewerage & Septage projects( for projects being implemented by ULB); and planning & conducting IEC activities and community mobilization with the support of the ULBs in consultation with SMMU.

#### **4. SCOPE OF WORK**

**The detailed role and responsibility of the consultant are mentioned below:**

**Activity 1-** Carry out all the required engineering surveys and investigations, Digital mapping, assessment, and technology/identification for the 28 selected District Metered Areas (DMAs) in the 10 Urban Local Bodies to supply 'Drink from Tap' Quality piped drinking water on a 24x7 basis including Preparation of detailed project report/Tender document for 24x7 water supply for including Smart Metering, SCADA system, and monitoring of the implementation of the Project, Preparation of digital base maps for the existing, proposed, and being executed water supply networks as per the AMRUT 2.0 guidelines and CPHEEO guidelines. (Available data/maps shall be shared. However, the accuracy and authenticity shall be verified and got confirmed from the concerned Department by the consultant)

**Activity 2-** Assessment of existing Non-Revenue Water and Developing Strategy and Implementation Action Plan for Reduction of Non-Revenue Water (below 20%) in 10 AMRUT cities.

**Activity 3-** Preparation of digital base maps for the existing, proposed, and executed sewer networks in the entire area of Thiruvananthapuram ULB.

**Activity4- Development of Urban/City Aquifer Management Plan as per the guidelines of AMRUT 2.0-** Prepare an aquifer Management Plan, Water security/ source strengthening measures, and water balance studies and mentioning stages/categorization of groundwater utilization zones as Over- exploited, critical, semi-critical or safe zone categorization, adaptation and mitigation measures towards climate change and aquifer management, study towards type of storm water harvesting and other artificial aquifer recharging measures, types of green infrastructures etc for 6 AMRUT cities (Kollam, Alappuzha, Thrissur, Guruvayur, Palakkad, and Kannur).

**Activity 5** -PDMC shall conduct IEC activities supporting the AMRUT 1.0 ULBs. Plan and prepare IEC materials in consultation with SMMU/ULB/ Government Depts. including Behavior Change Communication on the conservation of water and enhancing water use efficiency and the importance of Liquid Waste Management. IEC campaign shall target to build the capacities of local communities through information, education, and persuasion of people affecting Behavioral Change Communication (BCC). IEC shall envisage converting the campaign into a movement- *Jan Aandolan* by engaging ward committees, resident welfare associations, senior citizens, homemakers, NGOs, and civil society groups, students and youth, celebrities, brand ambassadors, and SHG groups.

**Activity6**-PDMC shall provide technical advice including preparation of DPR for nine ULBs, as and when required, in developing the Micro water supply projects & Rejuvenation of waterbodies, as and when required by the ULB by taking the community perception at large and common consensus among the different stakeholders.

**Activity 7**-PDMC shall provide technical advice including preparation of DPR for ULBs in developing Sewerage/ Septage projects ( 9 AMRUT 1.0 Cities ) and monitoring the implementation of the Projects as and when required by the ULBs.

**Activity 8**- PDMC shall liaise with the 93 ULBs, Kerala Water Authority, and CMMUs in collecting and updating the data/ progress to update on the State/ MoHUA Portal, monitoring the progress reports & obtaining other information asked by the State and Central Government from the above organizations.

**Following are the 9 cities included under AMRUT 1.0:**

SI No	CITY
1	Thiruvananthapuram Corporation
2	Kollam Corporation
3	Kochi Corporation
4	Thrissur Corporation
5	Kozhikode Corporation
6	Kannur Corporation
7	Alappuzha Municipality
8	Guruvayur Municipality
9	Palakkad Municipality

**The details of Urban Local Bodies for the Implementation of the Drink from Tap facility are given in the following table;**

Sl No	AMRUT CITY	Total No. of wards	The population as per 2021 Census	Total area (sq km)	No. of existing HH	No. of DMAs/Wards Proposed for 24x7 water supply
1	Thiruvananthapuram Corporation	100	992499	214.86	303065	1
2	Kollam Corporation	55	465946	74.039	115048	1
3	Alappuzha Municipality	52	217027	46.29	53587	6
4	Thrissur Corporation	55	379148	101.4	93617	2
5	Guruvayur Municipality	43	84014	29.66	20744	9
6	Palakkad Municipality	52	157223	26.6	38820	1
7	Kozhikkode Corporation	75	731069	118.58	180511	2
8	Kannur Corporation	55	248514	78.35	112000	4
9	Feroke Municipality	38	64889	15	16022	1
10	Chittoor Thathamangalam Municipality	29	38976	14.71	9624	1

**The details of Urban Local Bodies for the NRW assessment are given in the following table:**

Sl. No.	CITY
1	Thiruvananthapuram Corporation
2	Kollam Corporation
3	Alappuzha Municipality
4	Thrissur Corporation
5	Guruvayur Municipality
6	Palakkad Municipality
7	Kozhikode Corporation
8	Kannur Corporation
9	Feroke Municipality
10	Chittoor Thathamangalam Municipality

**4.1 Activity 1- Carry out all the required engineering surveys and investigations, Digital mapping, assessment, and technology/identification for the selected wards/ DMAs in the 10 Urban Local Bodies & prepare detailed project report/Tender document for 24x7 water supply.**

**A. Collection of Existing Data/ Secondary information on water supply systems in 10 Urban Local Bodies;** (Available data/maps will be shared by KWA. However, the accuracy and authenticity shall be verified and got certified by the consultant.)

- Collection of available drawings, and maps of existing water networks/ structures from the government departments.
- Collection of demographic data and ward map/ boundary of the towns.
- Existing infrastructure details.
- Existing water supply and demand status.
- Operation and maintenance of existing water supply schemes.
- Financial arrangements for the existing water supply schemes.

- Governance and management.
- Metering, tariffs, billing, and collection level, etc. (if applicable).

**B. Collection of Primary Data through Primary/direct Engineering Survey and Investigations***(Available data/maps will be shared by KWA. However, the accuracy and authenticity shall be verified and got certified by the consultant.)*

- Topographical and Alignment Survey - Topographical survey using Total Station/DGPS/Auto level of the area including preparation of road plan with levels along roads/streets at 10m intervals and junctions of roads, locations such as a change in gradient, road turnings, naming areas, important landmarks and green/built-up area including preparation of contour map, Establish Benchmark stations at different locations in the project area in consultation with an engineer in charge including the construction of benchmark pillars of RCC M20 (250X250X1000mm) embedded in cement concrete M15. The benchmarks stations shall be established by Total Station Survey/ Fly level survey with reference to GTS benchmarks available near or within the project area or provided by the client.
- Establish Temporary Benchmarks within the project area w.r.t the known GTS benchmark or a benchmark transferred from the GTS benchmark. UTM coordinate system shall be used for establishing the TBM /BM by DGPS survey.
- Laboratory Testing for Source Water Quality – Water quality testing of parameters as per **IS 10500** of samples collected from sources and strategic locations from the existing water supply network. Identify the type of contamination and provide solutions/technology for meeting the potable water quality standards as per prescribed BIS or other government norms. The water quality analysis results will assist in finalizing the requirement of the treatment process.
- Trial Pits - The representative trial pits to be carried out for the identification of Strata of the soil and its characteristics to identify the challenges and laying of the pipeline network.

**C. Preparation of Digital Base Maps of Cities** *(Available data/maps will be shared by KWA. However, the accuracy and authenticity shall be verified and got certified by the consultant.)*

- Digitisation of Topographical features: Digitisation of all collected topographical data both secondary and primary data on the GIS platform using standard GIS coordinate system (UTM; Datum -WGS84)
- Preparation of Base Layers .: Preparation of geospatial data layers for

- All types of Roads, Bridges, Water bodies, key buildings, landmarks, important places, etc.
- Boundaries – Municipal boundaries, ward boundaries, special developmental zones, planning boundaries, etc.
- Preparation of Existing Infrastructure Utilities Layers: Preparation of geospatial data layers for Existing water networks representing:
  - Existing Water supply lines, taps, overhead tanks, etc.;
  - Location of pipeline running underground along the road showing the exact location from the side of road/right or left/center and main line, sub-main, branch line, etc.
  - Type of pipe material used for distribution system (DI, GI, HDPE or PPR);
  - Location and type of pipe used for rising main from pump house to Service reservoir, feeding mains, etc, Air valve, scour valve, etc.
  - Exposed pipeline, the crossing of pipes on nallahs, stream, road crossings, etc.
  - Existing water zones.
  - Location and type of source of water supply; River, stream, nallah, open well, bore well, springs, etc.
  - Existing Discharge available from each source.

### **D. Analysis and Processing of collected data**

- Source sustainability assessment.
- Water demand assessment (ward-wise or cluster/zones-wise) for the design period. Design parameters shall be as described in the CPHEEO manual or in local government norms.
- Review of existing water supply network and check the potential of its integration/ upgradation in the new 24x7 water supply scheme to ensure its functionality.
- Review of the current model of management, governance, operation, and maintenance of the existing water supply system.
- To carry out necessary detailed survey & investigation, identify gaps in data and information, and interact with District Administration, KWA/ULB representatives, and local people wherever necessary.

### **E. Planning and Hydraulic Design of 24x7 Water Supply System**

- The planning and design of the water supply system shall ensure the supply of adequate quantity and quality with equal pressure to each individual house.

- Adapting design using natural systems/methods to prevent implementation of cost-intensive varied technologies.
- Adapting Water conservation using low-flow fixtures and energy-saving techniques and materials at household levels.
- The network shall be planned to cover all existing as well as proposed households in the project area to get connections with a minimum length of house service connections pipes.
- The storage shall be provided to ensure water 24x7 supply and prepare a service improvement plan for delivering continuous pressurized water services in the project area.
- The hydraulic model shall be prepared using **Water GEMS/ EPANET** software.
- The hydraulic model shall be prepared for the distribution network till the consumer end gets house service connections and to identify any NRW /leakages.
- Undertake flow and pressure measurements to assess the current hydraulic performance of the existing network system in coordination with the KWA officials.
- The selection of material and grade shall be as per design requirements, environmental standards, and climatic conditions.
- The distribution network map shall be prepared with all detailing requirements of construction.
- The design should necessarily include Smart Metering, Quality sensors, SCADA system, pressure gauges, etc.
- Prepare the current water model and future growth model for the year standard design horizon as per CPHEEO norms.
- Identify network deficiencies and strengthen measures duly optimizing the performance of existing assets.

### **F. Specifications and Cost Estimates**

- Provide detailed design specifications for end-to-end engineering design including civil, plumbing, electrical work, underground storage system, specification of all the fixtures, pumps, smart water meters, SCADA system, insulation materials, etc.
- Based on the above specifications, provide the estimated budget for the project implementation.
- For the preparation of cost estimates in PRICE-3, the DSR in force may be referred to for guidance. Review of DSR for relevant items and should prepare rate analysis with respect to current market rates.

- Rate analysis shall be furnished for items, which are not covered under the DSR including extra leads and lifts.
- Detailed Estimate - After the survey is carried out, sizes and other details of various units are decided, estimate the quantum of work involved. Having finalized such a quantum of work, prepare a detailed estimate of the various components of the work. The detailed estimates are required to be prepared with full details including a minimum of 5-year Operation & Maintenance.
- Quantity sheets should be enclosed with an estimate of each of the sub-work(ward-wise/DMA-wise) and it shall form an integral part of the estimates. On each of the quantity sheets, there should be a mention of the drawings, to which is to be referred.
- Contingencies: Even though estimates are prepared with sufficient accuracy and in detail, in order to cover the gap between the cost as per estimates, and as per actual execution of unforeseen circumstances which should be very few 5% for contingencies and 2% for work charged establishment should be provided for every estimate except for lump sum estimates such as working survey, land acquisition, etc.

#### **G.Preparation of Draft Contract, Tender documents, and Bid Process Management**

- The consultant should prepare the bid documentation in consultation with KWA for seeking offers from suitably- qualified companies to undertake the implementation program and to operate the 24x7 water supply scheme. The consultant proposes the qualifications sought by bidders and the duration of the contract.
- This includes mainly:
  - Preparing prequalification documents and assisting in the pre-qualification process
  - Preparing and helping manage the information desk for the transaction,
  - Assisting in pre-bid meetings, preparation of addendums/corrigendum as needed.
  - Assisting in the evaluation of bids (RFPs) and negotiations of the contract.
  - Prepare a contract management system and operation manual
  - Assist in establishing the contractual phase, including training of personnel in charge of the regulation of the contract, as well as building the capacity of contract signatories to undertake their role.
  - Finalizing arrangement for contracting including exploring options for PPP/ Service Level Agreements/bid document;



## H. Implementation Support

- Consultant needs to support bid preparation, bids evaluation, and an award of the Contract.
- The Team Leader/ Water Supply Engineer needs to supervise the work monthly and assist the Kerala Water Authority as and when required.

### 4.2 Activity 2- Assessment of existing Non-Revenue Water and Developing Strategy and Implementation Action Plan for Reduction of Non-Revenue Water (below 20%) in 10 AMRUT cities

- Available data/maps will be shared by KWA. However, the accuracy and authenticity shall be verified and got certified by PDMC.
- Assess ‘As is situation’ e.g. collection, collation, and analysis of existing data, field tests as required to assess and estimate the level of commercial losses through illegal connections, billing errors, and collection system physical losses through leaks and bursts in primary and secondary networks and house service connections and reservoir overflows and develop a strategy for structured control and reduction of NRW in a phased manner (short term, Midterm, and long term) to enable the provision of continuous pressurized water supply services to the customers.
- The sample selection and sample size will be finalized in consultation with the KWA but in any case, the sample size shall not be less than 5% of the proposed DMA or supply zone. As an outcome, the detail of DMA-wise NRW losses (physical and commercial) in quantum and percent shall be submitted.
- Prepare a detailed 3 to 5-year NRW reduction strategy (yearly activity plan) based on the reduction of losses proposed and cost associated (i.e. no cost, low cost, medium cost, and high-cost interventions). Provide support for seamless convergence with “AMRUT 2.0” for implementation of the strategy by facilitating its inclusion in the City Level Water Action Plan (CWAP) AMRUT 2.0.
- Assess the area-wise water losses (in each DMA or supply zone), identify the reasons for water losses, and suggest specific solutions for each area. The Consultant will also prepare detailed physical and commercial loss reduction forecasts for the detailed plan. The study should also include the following;
  - Physical Losses: Leakage , Storage Reservoir Overflows, Transmission, and Distribution System Losses.
  - Commercial Losses: Unauthorized Consumption (Illegal Connections), Metering Inaccuracies,

- Systematic Losses-Inadequate Infrastructure and Network Design, Inadequate Pressure Management, Inefficient Operation and Maintenance Practices
- The consultant will broadly undertake the following key activities:
  - Data collection on existing infrastructure assets and cost recovery.
  - Evaluation of current production, transmission, and distribution service performance.
  - Evaluation and critical assessment of physical, commercial and systematic losses
  - Detailed NRW water audit analysis
  - Sample surveys in consultation with the KWA for determining the customer consumption volumes.
  - Prepare the current water balance as per International Water Association (IWA) methodology.
  - Establish current annual levels of NRW with the breakup of commercial and physical losses and evaluate the economic loss to the utility.
  - Develop a strategy for progressive reduction of NRW with a detailed action plan and costs involved.
  - Evaluate options for implementation of NRW reduction strategy.
  - Provide a roadmap for the rationalization of user charges.
  - Provide a roadmap for improvement in the current system to achieve the objectives of the assignment.
  - Prepare implementation contract documents on performance-based NRW reduction framework.

**4.3 Activity 3 – Preparation of digital base maps for the existing, proposed, and executed sewer networks in the entire area of Thiruvananthapuram ULB.**

*(Available details with KWA are uploaded on the KWA website. The accuracy and authenticity shall be verified and got certified by PDMC. The survey details collected for NRW/ 24X7 schemes may be used for this purpose.)*

**A. Collection of Existing Data/ Secondary information on sewerage systems;**

- Collection of available drawings, and maps of existing sewer networks/structures from the government departments.
- Collection of demographic data and ward map/ boundary of the towns.
- Existing infrastructure details.

- Operation and maintenance of existing sewerage schemes.
- Financial arrangements for the existing sewerage schemes.
- Governance and management.
- Metering, tariffs, billing, collection level, etc. (if applicable).

**B. Collection of Primary Data through Primary/direct Engineering Survey and Investigations;**

- Carry out a survey for the existing/proposed utility services like collection Well, Pump House, lifting stations, STPs, etc, with levels at 5 m X 5 m grid and generation of contours at 0.5 m intervals. All levels shall be with respect to locally available permanent bench-mark. Establishing temporary benchmarks within the area/plot by using Total Station survey instruments with accuracy as per the Survey of India standards.
- Establish Benchmark stations at different locations in the project area in consultation with an engineer in charge including the construction of benchmark pillars of RCC M20 (250X250X1000mm) embedded in cement concrete M15. The benchmarks stations shall be established by Total Station Survey/ Fly level survey with reference to GTS benchmarks available near to or within the project area or provided by the client.
- Establish Temporary Benchmarks within the project area w.r.t the known GTS benchmark or a benchmark transferred from the GTS benchmark. UTM coordinate system shall be used for establishing the TBM /BM by DGPS survey.
- Trial Pits - The representative trial pits to be carried out for the identification of Strata of the soil and its characteristics to identify the challenges and laying of the pipeline network.

**C. Preparation of Digital Base Maps of Cities**

- Digitisation of Topographical features: Digitisation of all collected topographical data both secondary and primary data on the GIS platform using standard GIS coordinate system (UTM; Datum -WGS84)
- Preparation of Existing Infrastructure Utilities Layers: Preparation of geospatial data layers for Existing Sewer networks representing:
  - o Existing sewer network, pump houses, collection wells, STPs/ FSTPs etc.;
  - o Location of pipeline running underground along the road showing the exact location from the side of road/right or left/center and main line, sub-main, branch line, etc.
  - o Type of pipe material used for distribution system (DI, HDPE PE, PVC, RCC, CI, etc.);

- o Location and type of feeding mains, Air valve, etc.
- o Exposed pipeline, the crossing of pipes on nallahs, stream, road crossings, etc.
- o Existing Sewer Zones.
- o Location of STP and its capacity, location of trunk and Sewer line, branch line along the road, junction, Manhole, inspection chamber, road crossing, etc

#### **D. Analysis and Processing of collected data**

- Review of the existing sewer network.
- Requirement of additional STPs/ FSTPs.
- Review of the current model of management, governance, operation, and maintenance of the existing sewer system.
- To carry out necessary detailed survey & investigation, identify gaps in data and information, and interact with District Administration, KWA/ ULB representatives, and local people wherever necessary.

#### **4.4 Activity 4 -Development of Urban/City Aquifer Management Plan for 6 AMRUT cities (Kollam, Alappuzha, Thrissur, Guruvayur, Palakkad, Kannur). as per the guidelines of AMRUT 2.0**

Urban Aquifer management study should bring forth groundwater management for Drinking and domestic purposes followed by a critical role in supporting industries, agriculture, and other ecosystems as part of the water balance assessment. Careful monitoring of groundwater depth to water levels in dug wells and bore wells and water quality assessment for at least the past 10 years should be brought in to understand the decadal variation in water quality and quantity. Further to which strategies for conserving and recharging groundwater resources to be clearly notified as per the location-specific conditions to promote water conservation practices to reduce demand on groundwater resources. Developing and implementing rainwater harvesting and recharge programs that capture and store excess water to recharge the aquifers to be detailed. Detailed assessment of water quality aspects should be assessed as per **IS 10500** drinking water standards and notifying methodologies to protect sources from pollution and contamination for enhanced groundwater quality to be elaborated. Effective urban aquifer management requires a collaborative approach involving government agencies, water utilities, industry, and the community wherein the various roles and responsibilities of different stakeholders are to be mapped and notified with appropriate monitoring and evaluation system to ensure that management strategies for an effective and adaptable system are in place.

1. Effective urban aquifer management requires a collaborative approach involving government agencies, water utilities, industry, and the community wherein the various roles and responsibilities of different stakeholders to be mapped and notified with appropriate monitoring and evaluation system to ensure that management strategies for effective and adaptable systems are in place. Preparation of rainwater harvesting and artificial recharge plans as per the location-specific geology and aquifer properties.
2. Detailed water security/ source strengthening plan and water balance studies and mentioning the stages/categorization of groundwater utilization zones as “Over- exploited”, “critical”, “semi-critical” or safe zone categorization.
3. Urban aquifer management study should bring forth groundwater management for Drinking and domestic purposes followed by a critical role in supporting industries, agriculture, and other ecosystems as part of the water balance assessment.
4. Careful monitoring of groundwater depth to water levels in dug wells and bore wells and water quality assessment for at least the past 10 years should be brought in to understand the decadal variation in water quality and quantity
5. Strategies for conserving and recharging groundwater resources to be clearly notified as per the location-specific conditions to promote water conservation practices to reduce demand on groundwater resources.
6. Detailed assessment of water quality aspects should be assessed as per IS10500 drinking water standards and notifying methodologies to protect sources from pollution and contamination for enhanced groundwater quality to be elaborated.
7. Detailed assessment towards adaptation and mitigation measures towards climate change and aquifer management system,
8. Study towards the type of stormwater harvesting and other artificial aquifer recharging measures,
9. Study towards types of green infrastructures etc...

### **4.5 Activity 5 -Community Engagement & Information, Education and Communication (IEC) for 9 AMRUT 1.0 Cities**

1. Augment IEC action plan with the involvement of different stakeholders as and when needed in consultation with SMMU.
2. Preparation of IEC/BCC materials/tools in consultation with SMMU/ULB.
3. Conduct and monitor the IEC/BCC campaign through different communication channels such as mass media, social media campaigns, and targeted marketing through collaterals, community engagements, and exhibitions/Melas.

4. Create awareness about practices for water conservation like rainwater harvesting, clean water bodies, groundwater recharge, Liquid waste Management, and usage of treated used water.
5. Behavioral changes through IEC and BCC tools for optimum usage and minimizing wastage of water and the importance of Liquid Waste Management.
6. IEC will envisage converting the campaign into a movement-Jan Aandolan by engaging ward committees, resident welfare associations, senior citizens, NGOs and civil society groups, students and youth, celebrities, brand ambassadors, and SHG groups.
7. Ensuring the involvement of women SHGs in water demand management, water quality testing, and water infrastructure operations.
8. Conduct citizen engagement campaigns through various means including mass media and Inter-Personnel Communication (IPC) methods.
9. Engage women and youth groups in IPC-based campaigns to generate public support and participation for the implementation of projects with the support of ULB.
10. Coordination with the concerned teams at the ULB, district, and state levels to ensure regular updates of activities from the field.
11. Assistance in optimum women's participation in all the activities through gender-focused IEC materials.
12. Any other coordination work related to IEC as directed by SMMU.

**4.6 Activity 6- Micro water supply projects / Water supply projects taken up by ULBs- PDMC shall provide technical advice including preparation of DPR for 9 ULBs in developing the Micro water supply projects & Rejuvenation of waterbodies, as and when required by the ULB by taking the community perception at large and common consensus among the different stakeholders.**

A micro water supply project typically refers to a small-scale water supply system designed to provide safe and reliable water to a community or a group of households. These projects are often implemented in rural or remote areas where there is limited access to clean water sources. The key components of a micro water supply project typically include a water source, a treatment system to remove contaminants, a storage tank to store water, a distribution network to deliver water to households or other users, and a management and maintenance system to ensure the sustainability of the project.

1. PDMC shall assist the ULBs in developing the Micro water supply projects/ Water supply projects/ Rejuvenation of water bodies as and when required.
2. Hand-holding ULB / any implementing agency in preparing, tendering, awarding, supervising, sorting out technical issues, monitoring, and bill payments as and when required.

3. The selection of appropriate technologies and approaches for a micro water supply project should depend on the local conditions, such as the availability of water sources, the quality of the water, and the socio-economic context of the community. It is important to involve the community in all stages of the project, from planning to implementation and operation, to ensure that the project meets their needs and is sustainable in the long run in common consensus with all the stakeholders involved.
4. Overall, micro water supply projects should play a crucial role in improving the health and well-being of the communities by providing them with access to safe, reliable, and potable water, which should also help to reduce the burden of waterborne diseases and also promote Socio-Economic development of the benefitting community at large
5. The overall study report should detail on the water source, water treatment measures to be adopted, transmission and distribution network needs to be detailed, water storage facilities should be detailed, elaborative water quality assessment and report from NABL accredited labs for IS 10500 parameters. water metering and infrastructure maintenance detailing, various location specific water conservation measures as per the prevailing soil and subsurface geology condition, detailing of Emergency preparedness/contingency plan should be detailed and all the regulatory and compliance considerations should be adhered to.

**4.7 Activity 7- Preparation of Detailed Project Reports including tender documents for Sewerage/ Septage projects (for 9 AMRUT cities), Action plan for the 100% coverage of sewerage and septage facilities of the Cities and monitor the implementation of the Projects as and when required by the ULBs.**

1. Detailed consultations shall be conducted with various stakeholders like Government departments like ULB, KWA, etc with specific deliberations on project proposals, to receive opinions and identification of land.
2. The Consultant shall obtain a No Objection Certificate from Land belonging to ULB before finalizing the feasibility report.
3. Carry out an inspection of the service area to understand problems in Collection and conveyance and identify required operational measures or investment proposals. Identifying critical bottlenecks and problems of the existing system.
4. Prepare detailed designs on the basis of Guidelines for Planning, Design, and Implementation of Sewerage/ Septage projects including Recycle/ Reuse of treated water in accordance with sound & established engineering practices; tender drawings and; cost estimates, etc. The design shall meet the techno-economic aspects for the best possible solution after consideration of various available alternatives and shall

sufficiently be detailed to ensure clarity and understanding by all stakeholders and will be incorporated into a detailed project report to be submitted for the approval of the Client

5. Assessment of utility shifting requirement and costs estimations;
6. Preparation of Environmental and Social, Assessment Report to prepare necessary impact assessment Environmental Mitigation Plans and Resettlement Action Plans.
7. Wherever permission from a State or Central government organization is required in the implementation of the project, it would have endeavored to obtain the same while finalizing the DPR. However, in case the same is not possible while finalizing DPR, a proper proposal should be initiated from the ULB for sanction.
8. Clearances/ Permission from other Ministries namely the Ministry of Environment and Forest, SPBC/CPCB, NHAI, and Railways, if required, shall be obtained and enclosed with the DPR.
9. Assess each site's environmental aspects for the detailed design of the project component. Accordingly, prepare initial environmental impact examinations (IEE) as may be required;
10. To prepare a detailed report & Action plan for the 100% coverage of sewerage and septage facilities of the Cities.
11. The Detailed Project Reports should be prepared to adhere to the requirements of AMRUT 2.0 and CPHEEO guidelines.
12. Prepare Detailed Project Report including technical specifications, Contract drawings, tender documents, bills of quantities, 5-year Operation & Maintenance, and the above aspects;
13. Finalizing arrangement for contracting including exploring options for PPP/ Service Level Agreements/bid document;
14. Prepare consolidated bid documents, technical specifications, approved contract drawings, final bills of quantities, EMP, and any other necessary information required for successful tendering and implementation of contracts. The Bid document should be in accordance with the Government of India / State Government guidelines.
15. Assist Municipal Corporation / Municipality in all aspects of procurement including issuing bid invitations, addendum/corrigendum, and clarifications to the bidders' queries, bid evaluation, selection of contractors, award of contract, and signing of the contract;
16. Prepare contract documentation to include Letters of invitation, conditions of contract, specifications, design parameters; bills of quantities, etc. in close coordination with the Corporation / Municipality.
17. Prepare the construction supervision manual and maintenance manual.
18. Establish a Quality assurance system including verification of the source of material and certification.



19. Carry out necessary quality control activities and certify that the quality of works conforms to the specifications and drawings.
20. Hand-holding ULB / any implementing agency in preparing DPR, tendering, awarding, supervising, sorting out technical issues, and monitoring as and when required.
21. The Team Leader and Design Engineer (Wastewater) need to supervise the work intermittently at least once in 2 months.

#### **4.8 Activity 8- Progress Monitoring of 93 Urban Local Bodies.**

The consultant will broadly undertake the following key activities:

1. Assist SMMU with Updating the inputs in the State & MoHUA Portal (projects and reforms).
2. Weekly data collection, analysis, and timely reporting as per the direction from SMMU
3. Provide Support in IT-related / e-governance sector initiatives.
4. Monitor projects/programs using project monitoring tools.IT techniques/ cyber tools.
5. Support IT-related smart solutions in urban areas.
6. Preparing and monitoring the progress reports & obtaining the information from the ULB/KWA/CMMUs for 93 Urban Local Bodies.
7. Monthly Performance and Management Reports using PMIS/ Project Management IT tools for each contract during the entire program period.

#### **5. Reporting Structure**

1. PDMC will report to the Mission Director, SMMU AMRUT Kerala, or any officer nominated by the Mission Director, for this assignment and will work closely with the officers from KWA, CMMU, SMMU, ULB, and other stakeholders responsible for the implementation of AMRUT 2.0 objectives.
2. The consultants shall verify the correctness of the data/information provided by the client and satisfy themselves with the accuracy of data/information /material before these are used. Data/information/material provided to the consultants shall remain the property of the originating agency and shall be provided solely for the purpose of the work conducted under this contract. All such borrowed material shall be returned to the client/concerned agency/originating agency upon completion of the assignment. Apart from data/information provided by the client and that which the consultants could procure from other agencies, the consultants shall be responsible to collect any other data/information required for the assignment, through field surveys and investigations.

3. All the DPRs and Reports shall be duly approved by the city-level committee/ respective officer of Kerala Water Authority/ ULB/other stakeholders, not below the rank of an Executive Engineer.
4. The local office space for the entire team of experts, the vehicle for transportation, lodging, boarding, other overheads, communication costs, and any other allowances required for this consulting service shall be included in the Financial quote. The quote will be final and no additional payment request will be entertained.

## **6. Payment Schedule, Reporting Requirement & Time Schedule of Deliverables**

### **6.1 Deliverables**

#### **6.1.1 Activity 1:24x7 water supply**

##### **The Detailed Project Report (DPR) should contain:**

- Digital Base Map of identified 28 DMAs/ Wards in all the 10 Urban Local Bodies presenting all existing features as covered in the scope of work in geospatial layers in the scale of 1: 4000 or as specified by the government department.
- Complete digital hydraulic design model of 24x7 water supply network for the identified wards/DMAs of 10 ULBs along with its cluster/ zoning.
- Preparation of BOQ and tender documents for inviting tender for each DMA/ Ward in the Cities
- It should also include detailed drawings, cost estimation, and specifications and be sufficient enough to float the Tenders for Intake structures, water transfer mains, treatment plant (if applicable) and distribution network system, detailed specification, and scope of work for installation of smart metering (Ultrasonic), Bulk meter, flow meter with other accessories of NRV, PRV, Air valve and Scour valve, Reflux valve, and SCADA system for all operational pumps and reservoirs.
- All necessary provisions required for operation and maintenance.
- An O&M financial model should also be a part of the DPR.
- sets of hard copies and soft copies duly completed in all respect comprising all the requirements of the department, all drawings in Auto-CAD format shall have to be submitted to the KWA/ULB by the agency.
- The Consultant or his representatives shall have to help the Department in Implementing the project on the ground and carry monitoring during the execution of the works in quality and specification of the various components as per the Project report and should visit the site as and when required. The Consultant should hold on-site consultations with the KWA as and when required by the Department during the period of execution of the project.

**(c) The total duration for completion of the scope is envisaged as 8 months for DPR preparation and for selection of implementing agency as 3 months with the breakup as follows:**

<b>Report</b>	<b>Timeline</b>	<b>Documents</b>	<b>Deliverables and Contents</b>
Inception Report	End of 15 days from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	The Consultant shall prepare an inception report describing how to implement Approach and Methodology, work schedule and manpower proposed in the proposal in align with the ground reality.
<b>Reports for 5 ULBs</b>			
1 <sup>st</sup> Interim Report	End of 2nd Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	<b>(c)</b> Data Collection, Field Engineering Surveys, Engineering Surveys, Investigations, and digital base Map preparations in Identified wards/DMA's.
2nd Interim Report	End of 3rd Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	<b>(d)</b> Hydraulic design of the 24x7 Water Supply System.
Draft final Report	End of 4th Month from the start date as per contract	Hard copies, and soft copies comprising all the requirements of the department, all drawings in Auto-CAD format.	<b>(e)</b> Draft DPR with Drawings, Estimates, Specifications, BOQs, and tender documents.
Final Report	<b>(f)</b> End of 5th Month from the start date as per contract	5 sets of hard copies and soft copies duly completed in all respect comprising all the requirements of the department, all drawings in Auto-CAD format	<b>(g)</b> Final submission of the DPR after vetting and duly approved by the respective KWA official and ULB

Reports for remaining 5 ULBs			
1 <sup>st</sup> Interim Report	End of 3rd Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	Data Collection, Field Engineering Surveys, Engineering Surveys, Investigations, and digital base Map preparations in Identified wards/DMA.s.
2nd Interim Report	End of 4th Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable) 13.	Hydraulic design of the 24x7 Water Supply System.
Draft Final Report	End of 6th Month from the start date as per contract	Hard copies, and soft copies comprising all the requirements of the department, all drawings in Auto-CAD format.	Draft DPR with Drawings, Estimates, Specifications, BOQs, and tender documents.
Final Report	End of the 8th Month from the start date as per contract	5 sets of hard copies and soft copies duly completed in all respect comprising all the requirements of the department, all drawings in Auto-CAD format 19. 20.	Final submission of the DPR after vetting and duly approved by the respective KWA official and ULB.
	3 months from the approval of the Final Report		(h) Support in bidding, evaluation of bids, and appointment of Contractor.

### 6.1.2 Activity 2: Action Plan for Reduction of Non-Revenue Water

(j) The total duration for completion of the scope is envisaged as 8 months.

Report	Timeline	Documents	Deliverables and Contents
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Inception Report	End of 15 days from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	The Consultant shall prepare an inception report describing how to implement the Approach and Methodology, work schedule and manpower proposed in the proposal in align with the ground reality.
Reports for a minimum of 5 Urban Local Bodies			
1 <sup>st</sup> Interim Report	End of 1st Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	The consultant shall complete the collection and analysis of existing data, assess AS-Is Situation, , sample survey conducted detail, detail of current water balance, develop a strategy for structural control and reduction of NRW in a phased manner. Prepare a detailed 3 to 5-year NRW reduction strategy based on the proposed reduction losses.
2 <sup>nd</sup> Interim Report	End of 2nd Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	<p>Detail of area-wise water loss (in each DMA or supply zone), detail of identified reasons for water losses, details of physical and commercial losses. Physical and commercial reduction forecast. Energy audit survey and report. Develop a strategy for progressive reduction of NRW</p> <p>Details of options for implementations of NRW strategy along with outcomes. Road map for rationalization of user charges, details of improvement required to achieve the objectives, preparation of details for funding options for implementation</p>
Draft Final report	End of 3 Months from the start date	Hard copies, and Electronic version (pdf	This report shall include all necessary technical information in comprehensive and coherent appendices. It shall include a summary of methodologies used,

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	as per contract	and editable)	<p>assumptions made, input data and final results of such studies. Further, the report will summarize the results of an IWA standard water balance, based on the usual data collection and verification (top-down approach) combined with a bottom-up leakage assessment. Error margins for each of the water balance components shall be stated.</p> <p>The strategy for the reduction of NRW shall include a description of the NRW assessment activities &amp; their results, water balance and performance indicators, and institutional and human resource capacity issues. Non-Revenue Water Management, analysis of alternatives and options for physical and commercial loss reduction; a phased NRW reduction activity plan including physical and commercial loss reduction forecasts; Description of activities to be undertaken and equipment requirements.</p> <p>The Consultant shall submit TOR/ DPR / Bid document &amp; cost estimates for initiatives proposed for outsourcing as a definite output of this assignment. Roadmap for improvement in the current system. Funding options proposed and finalized for implementation. Preparation of draft contract documents on performance-based NRW reduction framework.</p>
Final Report	End of the 4 Months from the start date as per contract	5 sets of hard copies and soft copies duly completed in all respect comprising	<p>The Final Report is an umbrella report with comprehensive summaries of previously submitted reports and appendices as per the scope of the work. Obtained funding options for the implementation of the project. Final implementation Contract documents on</p>

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		all the requirements of the department, all drawings in Auto-CAD format	performance-based NRW reduction framework.
Reports for remaining 5 Urban Local Bodies			
1 <sup>st</sup> Interim Report	End of 3 1/2 Months from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	The consultant shall complete the collection and analysis of existing data, assess AS-Is Situation, , sample survey conducted detail, detail of current water balance, develop a strategy for structural control and reduction of NRW in a phased manner. Prepare a detailed 3 to 5-year NRW reduction strategy based on the proposed reduction losses.
2 <sup>nd</sup> Interim Report	End of 5 Months from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	Detail of area-wise water loss (in each DMA or supply zone), detail of identified reasons for water losses, details of physical and commercial losses. Physical and commercial reduction forecast. Energy audit survey and report. Develop a strategy for progressive reduction of NRW  Details of options for implementations of NRW strategy along with outcomes. Road map for rationalization of user charges, details of improvement required to achieve the objectives, preparation of details for funding options for implementation

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<p>Draft Final report</p>	<p>End of 6 Months from the start date as per contract</p>	<p>Hard copies, and Electronic version (pdf and editable)</p>	<p>This report shall include all necessary technical information in comprehensive and coherent appendices. It shall include a summary of methodologies used, assumptions made, input data and final results of such studies. Further, the report will summarize the results of an IWA standard water balance, based on the usual data collection and verification (top-down approach) combined with a bottom-up leakage assessment. Error margins for each of the water balance components shall be stated.</p> <p>The strategy for the reduction of NRW shall include a description of the NRW assessment activities &amp; their results, water balance and performance indicators, and institutional and human resource capacity issues. Non-Revenue Water Management, analysis of alternatives and options for physical and commercial loss reduction; a phased NRW reduction activity plan including physical and commercial loss reduction forecasts; Description of activities to be undertaken and equipment requirements.</p> <p>The Consultant shall submit TOR/ DPR / Bid document &amp; cost estimates for initiatives proposed for outsourcing as a definite output of this assignment. Roadmap for improvement in the current system. Funding options proposed and finalized for implementation. Preparation of draft contract documents on performance-based NRW reduction framework.</p>
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Final Report	End of the 8 Months from the start date as per contract	5 sets of hard copies and soft copies duly completed in all respect comprising all the requirements of the department, all drawings in Auto-CAD format	The Final Report is an umbrella report with comprehensive summaries of previously submitted reports and appendices as per the scope of the work. Obtained funding options for the implementation of the project. Final implementation Contract documents on performance-based NRW reduction framework.
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**6.1.3 Activity 3: Preparation of digital base maps for the existing, proposed, and executed sewer networks in the entire area of Thiruvananthapuram Corporation**

**(i) The total duration for completion of the scope is envisaged as 4 months**

Report	Timeline	Documents	Deliverables and Contents
Inception Report	End of 15 days from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	The Consultant shall prepare an inception report describing how to implement Approach and Methodology, work schedule and manpower proposed in the proposal in align with the ground reality.
1 <sup>st</sup> Interim Report	End of 2nd Month from the start date as per	Hard copies, and Electronic version (pdf and editable)	Data Collection, Field Engineering Surveys, and Base Map preparations

	contract		
Final Report	End of 4 <sup>th</sup> Month from the start date as per contract	5 sets of hard copies and soft copies duly completed in all respect comprising all the requirements of the department, all drawings in Auto-CAD format	Digital Base Map presenting all existing features as covered in the scope of work in geospatial layers in the scale of 1: 4000 or as specified by the government department including a detailed report & Action plan, after vetting and duly approved by the respective KWA official and ULB official.

(j)

**6.1.4 Activity 4: Urban/City Aquifer Management Plan.****(k) The total duration for completion of the scope is envisaged as 6 months.*****Deliverables***

1. Submission of ULB/City wise Aquifer Management Plan covering water security/source strengthening measures, and water balance studies and mentioning of stages/categorization of groundwater utilization zones as Over- exploited, critical, semi-critical, or safe zone.
2. adaptation and mitigation measures towards climate change and aquifer management,
3. study towards the type of stormwater harvesting and other artificial aquifer recharging measures, types of green infrastructures, etc
4. details towards aquifer recharge and discharge zones to be notified,

Report	Documents	Timeline	Deliverables and Contents
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<p>Inception Report</p>	<p>Hard copies, and Electronic version (pdf and editable)</p>	<p>End of 15 days</p>	<p>The Consultant shall prepare an inception report describing the implementation process, Approach and Methodology, work schedule and manpower proposed in the proposal in alignment with the ground reality.</p>
<p>1<sup>st</sup> Interim Report</p>	<p>Hard copies, and Electronic version (pdf and editable)</p>	<p>End of 1.5 month</p>	<p>The consultant shall complete the collection of data and appropriate analysis of the same in detail the depth to water levels of dug and bore wells, the Water utility for multifarious usages, Water quality assessment,</p> <p>Strategies, and modalities for conserving and recharging groundwater resources to be clearly notified as per the location-specific conditions and appropriate designs to promote water conservation practices to reduce demand on groundwater resources.</p> <p>adaptation and mitigation measures towards climate change and aquifer management,</p> <p>study towards type of stormwater harvesting and other artificial aquifer recharging measures,</p> <p>types of green infrastructures etc</p> <p>details towards aquifer recharge and discharge zones to be notified,</p>

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2 <sup>nd</sup> Interim Report	Hard copies, and Electronic version (pdf and editable)	End of 3.5 months	Detailed water security plans source strengthening measures and water balance studies and mentioning the stages/categorization of groundwater utilization zones as “Over- exploited”, “critical”, “semi-critical” or safe zone categorization should be clearly notified.
Draft Final Report	Hard copies, and Electronic version (pdf and editable)	End of 5 months	Should bring in the overall aquifer characterization, aquifer vulnerability assessment, complete water balance of the study area, Aquifer recharge plans, Aquifer monitoring and evaluation plan, aquifer/groundwater characterization, and various aspects of community engagement plans.
Final Report	As above	End of 6 Months.	<p>final output should include the following deliverables:</p> <p><b>Aquifer characterization report:</b> The report should provide a comprehensive overview of the hydrogeological characteristics of the urban aquifer, including the geological, hydrological, and water quality aspects.</p> <p><b>Aquifer vulnerability assessment report :</b> The assessment report should identify and map the areas of the urban aquifer that are most vulnerable to contamination and depletion as per the area of study.</p> <p><b>Aquifer recharge plan:</b> This plan should outline the strategies and</p>

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			<p>measures for enhancing the recharge of the urban aquifer, such as rainwater harvesting, artificial recharge, and stormwater management.</p> <p><b>Aquifer monitoring and evaluation program:</b> This program should establish a framework for monitoring and evaluating the effectiveness of the aquifer management strategies and assessing the overall health of the aquifer.</p> <p><b>Aquifer/ Groundwater categorization:</b> This report should clearly indicate the groundwater categorization of the area of study</p> <p><b>Community engagement and awareness plan:</b> This plan should aim to engage and educate the local community and stakeholders about the importance of urban aquifer management, and encourage their participation in the project.</p> <p><b>Policy and regulatory recommendations:</b> Based on the findings and outcomes of the project, policy and regulatory recommendations should be developed to support sustainable urban aquifer management practices.</p> <p>All relevant study needs to be presented in Maps, tabulations, Histograms, fence diagrams detailing phreatic and deeper aquifers, formation stratigraphy</p>
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			sections, pre and post monsoon depth to water levels fluctuations, and decadal variation graphs etc...
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**(l) 6.1.5 Activity 5- Community Engagement & Information, Education and Communication (IEC)**

**(m) The total duration for completion of the scope is envisaged as 18 months.**

***Deliverables***

1. Prepare and Submit the Annual IEC Action Plan for the AMRUT 1.0 cities.
2. Execute Awareness and information campaigns, community mobilization campaigns, organize AMRUT thematic drives, etc. in all the AMRUT 1.0 cities at least once in every 6 months and as and when required.
3. Preparation of IEC materials in consultation with SMMU and ULB including Behavior Change Communication on the conservation of water and enhancing water use efficiency among the masses and the importance of Liquid Waste Management, as well as Interpersonal Communication (IPC)-based campaign strategy.
4. Establish an effective grievance redressal and citizen feedback system regarding liquid waste management.
5. Create awareness of citizens on the conservation of water and enhancing water use efficiency among the masses and the importance of Liquid Waste Management and reuse of used water under AMRUT 2.0.
6. Implementation of IEC activities as per the requirement and direction of the Mission Director.
7. Submission of monthly and quarterly reports on IEC/BCC/community mobilization campaigns conducted including IPC-based campaigns for each AMRUT 1.0 city. The report shall also highlight the engagement of women and youth groups in the IPC-based campaigns.
8. Social Media Management –Regularly posting on the social media channels of the department (Facebook, Twitter, YouTube) basis on the Behaviour Change Campaign/Program Specific Campaign, other department events, and news.
9. Undertake awareness activities in Residential associations, Commercial Areas, Malls, Government Institutions, Slums, Schools and Colleges, Hospitals, Hotels and Industries on liquid waste management and in Industries on re use of used water.

(n) **6.1.6 Activity 6- Micro water supply projects / Water supply projects/ Rejuvenation of Waterbodies;**

(o) **The total duration for completion of the scope is envisaged as 5 months.**

***Deliverables***

1. Submission of draft DPRs including Tender documents for Micro Water Supply Projects for nine ULBs.
2. Submission of final DPRs including Tender Documents incorporating comments from ULBs/SMMU/KWA.
3. Monitoring and Supervision of the implementation of Micro Water Supply Projects.

<b>Report</b>	<b>Timeline</b>	<b>Documents</b>	<b>Deliverables and Contents</b>
Inception Report	End of 15 days from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	The Consultant shall prepare an inception report describing the implementation process, Approach and Methodology, work schedule and manpower proposed in the proposal in alignment with the ground reality as and where there is a micro water supply project planning and implementation notification by the ULB .
1 <sup>st</sup> Interim Report	End of 1 <sup>st</sup> Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	Based on the ULB notification for a good micro water supply project The study should include identification of a good perennial source of water. (if the borewell is the proposed source, it should be yield tested by continuous discharge test to ensure the water availability through all seasons.  complete water quality assessment as per <b>IS 10500</b> criteria.  detailing a good treatment system to

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			<p>remove contaminants if any, and a storage tank to store water.</p> <p>a distribution network to deliver water to households or other users, etc</p> <p>detailing the proposed source-strengthening measures.</p> <p>detailing the management and maintenance system with beneficial community members as water user groups and ULB and other line departments as part of stakeholders to ensure the future sustainability of the project.</p>
2 <sup>nd</sup> Interim Report	End of 3rd Month from the start date as per contract	Hard copies and Electronic version (pdf and editable)	A furthermore detailing of the above-mentioned attributes with onsite studies if necessary or providing the hand-holding support to ULB/ other partners in the proper implementation of the Micro water supply system.
Draft Final report	End of 4.5 Months from the start date as per contract	Hard copies, and Electronic versions (pdf and editable)	if the responsibility is assigned for the consultant to do a detailed assessment and plan right from site selection, source assessment, transmission, and distribution to consumers, water quality assessments as per <b>IS 10500</b> standards, detailed operation and management system, various stage holder roles and responsibilities will all detailed design details, etc should be a part of the draft final report,



Final Report	End of 5 <sup>th</sup> Month from start date as per contract	As above	The final report should indicate an Overall impact of the micro water supply projects ensuring safe and potable drinking water facilities and improving upon the health and well-being of the communities. A clear indication of How the micro water supply projects have helped to reduce the burden of waterborne diseases and also in the promotion of Socio-Economic development of the benefitting community at large should be clearly elaborated in the detailed final report apart from all the scientific/technical and design details.
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**6.1.7 Activity 7- Preparation of Detailed Project Reports including tender documents for Sewerage/ Septage projects (for 9 AMRUT cities) and monitor the implementation of the Projects as and when required by the ULBs.**

**The total duration for completion of the scope is envisaged as 5 months.**

***Deliverables***

1. Submission of draft DPRs including Tender Documents for Sewerage/ Septage Projects for Nine AMRUT cities
2. Submission of final DPRs including Tender Documents incorporating comments from ULBs/SMMU/KWA
3. Monitoring and Supervision of the implementation of Sewerage/ Septage Projects.

Report	Timeline	Documents	Deliverables and Contents
Inception Report	End of 15 days from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	The Consultant shall prepare an inception report describing how to implement the Approach and Methodology, work schedule and manpower proposed in the proposal

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			in align with the ground reality.
1 <sup>st</sup> Interim Report	End of 2nd Month from the start date as per contract	Hard copies, and Electronic version (pdf and editable)	Feasibility Report
Draft final Report	(p) 04 months from the start date as per contract	Hard copies, and soft copies comprising all the requirements of the department, all drawings in Auto-CAD format.	Draft DPR with Drawings, Estimates, Specifications, BOQs, and tender documents.
Final Report	05 months from the start date as per contract	5 sets of hard copies and soft copies duly completed in all respect comprising all the requirements of the department, all drawings in Auto-CAD format	Vetting and final submission of the DPR approved by the respective KWA official and ULB.

#### 6.1.8 Activity 8- Progress Monitoring of 93 Urban Local Bodies.

1. Regular update of the inputs for the State & MoHUA Portal (projects and reforms).
2. Regular Monitoring of projects/ programs using project monitoring tools and IT techniques.
3. Preparing and monitoring the progress reports & obtaining the information from the ULB/KWA/CMMUs for 93 Urban Local Bodies weekly.
4. Monthly Performance and Management Reports using Project Management Software tools for each contract during the entire program period.
5. Submit the monthly progress reports (MPR) by the 10<sup>th</sup> of each month except the month following the Inception Report, Quarterly, and Yearly Progress Reports through hard as well as soft copy, capturing the progress across all the parameters as advised by SMMU.
6. The consultant shall submit other reports as required by State / ULBs. All reports will be submitted to State / ULBs in the agreed time frame.

Consultant shall carry out the assignment under the overall supervision and control of the office of SMMU AMRUT Kerala. The consultant will update the Task register every month along with progress achieved against each task in the previous month. Invoice will be due as per indicated timelines, along with submission of Report compiling all relevant deliverables and timesheet of team members deployed for that period.

## **6.2 Payment Schedule**

1. Payment will be in accordance with the schedule specified below.
2. The mode/stage of payment to the agency in whose favor the contract has been allotted shall be as under. However, an approximate value of the Contract shall be fixed to facilitate the payment to the agency Initially. The consultant shall submit the bills as per the payment schedule.
3. The bills shall be duly signed by the officer of Kerala Water Authority not below the rank of an Executive Engineer for works related to KWA/ Executive Engineer concerned, for works related to ULB, and the respective Municipal Secretary.
4. The final payment shall be made only after the final report and a final statement, identified as such, shall have been submitted by the Consultant and approved as satisfactory by the Client. The client shall make the final payment upon acceptance or deemed acceptance of the final deliverable by the Consultant.
5. Excess of job assignment up to 25% is liable to be done by the Consultant at pro-rata basis.

### **6.2.1 Activity 1--Drink from Tap-24X7 WS projects in 28 Wards/ DMAs**

#### ***Payment Schedule for Activity 1***

<b>Deliverable</b>	<b>% of Consultant Fee</b>	<b>% of Cumulative Consultant Fee</b>
1.1	40% upon final submission of the DPR including tender documents for 14 Wards/ DMA after vetting and duly approved by the respective KWA official and ULB and accord of administrative approval and technical sanction from the competent authority.	40%
1.2	40% upon final submission of the DPR including tender documents for the remaining 14 Wards/ DMAs after vetting and duly approved by the respective KWA official and ULB and accord of administrative approval and technical sanction from the competent authority.	80%
1.3	10% upon completion of necessary Implementation Support to the satisfaction of the Client.	90%
1.4	<b>10% upon</b> the final report and a final statement, approved as satisfactory by the Client.	100%

### 6.2.2 Activity 2- Assessment of NRW in 10 ULBs

#### *Payment Schedule for Activity 2*

<b>Deliverable</b>	<b>% of Consultant Fee</b>	<b>% of Cumulative Consultant Fee</b>
2.1	30 % upon submission of the implementation plan and contract documents on performance-based NRW reduction framework for 2 Corporations & 2 Municipalities after vetting and duly approved by the respective KWA official and ULB.	30%
2.2	30 % upon submission of the implementation plan and contract documents on performance-based NRW reduction framework for 2 Corporations & 2 Municipalities after vetting	60%

	and duly approved by the respective KWA official and ULB.	
2.3	15% upon submission of the implementation plan and contract documents on performance-based NRW reduction framework for 1 Corporation & 1 Municipality after vetting and duly approved by the respective KWA official and ULB.	75%
2.4	15% upon completion of necessary Implementation Support.	90%
2.5	<b>10% upon</b> the final report and a final statement, approved as satisfactory by the Client.	100%

### 6.2.3 Activity 3- - Digitized map for Sewer network in Thiruvananthapuram Corporation.

#### *Payment Schedule for Activity 3*

<b>Deliverable</b>	<b>% of Consultant Fee</b>	<b>% of Cumulative Consultant Fee</b>
3.1	40 % upon submission of draft base maps for the existing, proposed, and executed sewer networks in the entire area	40%
3.2	40 % upon submission of the final digital base map including a detailed report and action plan after vetting and duly approved by the respective KWA official and ULB.	40%
3.3	10% upon completion of necessary Implementation Support to the satisfaction of the Client.	90%
3.4	<b>10% upon</b> the final report and a final statement, approved as satisfactory by the Client.	100%

### 6.2.4 Activity 4- Aquifer Management Plan for 6 ULBs

#### *Payment Schedule for Activity 4*

<b>Deliverable</b>	<b>% of Consultant Fee</b>	<b>% of Cumulative Consultant Fee</b>
4.1	36% upon submission of ULB/City wise draft Aquifer Management Plan (6% each for each ULB)	36%
4.2	54% upon submission of ULB/City wise final Aquifer Management Plan (9% each for each ULB)	90%
4.3	10% upon approval of the ULB/City wise Aquifer Management Plan by SMMU/Ground Water Dpt/ Central Groundwater Board.	100%

### 6.2.5 Activity 5- IEC Activities

#### *Payment Schedule for Activity 5*

<b>Deliverable</b>	<b>% of Consultant Fee</b>	<b>% of Cumulative Consultant Fee</b>
5.1	30% payments will be made after the campaign in all the AMRUT 1.0 cities in the first 6 months upon submission of an invoice backed by Monthly Progress and Activity Report outlining the activities undertaken and areas covered with documentary proof like photographs, press cuttings, etc. A forwarding letter/certification of the ULB official, that the activities have been performed in the concerned ULBs needs to be submitted during the submission of their bill based on which payment will be released.	30 %
5.2	30% payments will be made after the campaign in all the AMRUT 1.0 cities in the second 6 months upon submission of an invoice backed by Monthly Progress and Activity Report outlining the activities undertaken and areas covered with documentary proof like photographs, press cuttings, etc. A forwarding letter/certification of the ULB official,	60 %

	that the activities have been performed in the concerned ULBs needs to be submitted during the submission of their bill based on which payment will be released.	
5.3	30% of payments will be made after the campaign in all the AMRUT 1.0 cities in the last 6 months upon submission of an invoice backed by a Monthly Progress and Activity Report outlining the activities undertaken and areas covered with documentary proof like photographs, press cuttings, etc. A forwarding letter/certification of the ULB official, that the activities have been performed in the concerned ULBs needs to be submitted during the submission of their bill based on which payment will be released.	90%
5.4	<b>10% upon</b> the final report and a final statement, approved as satisfactory by the Client.	100%

#### **6.2.6 Activity 6- Micro Water supply scheme/ Rejuvenation of Waterbodies**

##### ***Payment Schedule for Activity 6***

<b>Deliverable</b>	<b>% of Consultant Fee</b>	<b>% of Cumulative Consultant Fee</b>
6.1	45% upon submission of draft DPRs including Tender Documents (5% each for each ULB)	45%
6.2	45% upon submission final DPRs including Tender Documents (5% each for each ULB)	90%
6.3	10% upon completion of necessary Implementation Support to the satisfaction of the Client and the final report and a final statement, approved as satisfactory by the Client.	100%

#### **6.2.7 Activity 7-- Sewerage/ Septage projects for 9 ULBs.**

##### ***Payment Schedule for Activity 7***

<b>Deliverable</b>	<b>% of Consultant Fee</b>	<b>% of Cumulative Consultant Fee</b>
7.1	45% upon submission of draft DPRs including Tender Documents (5% each for each ULB)	45%
7.2	45% upon submission final DPRs including Tender Documents (5% each for each ULB)	90%
7.3	10% upon completion of necessary Implementation Support to the satisfaction of the Client and the final report and a final statement, approved as satisfactory by the Client.	100%

### **6.3 Reports and Documents to be submitted by the Consultant to Client**

- i. The Consultant shall submit to the client the reports and documents in bound volumes (and not spiral binding form) after completion of each stage of work as per the schedule and in the number of copies as given in the Deliverables. Further, the reports shall also be submitted in Pen drive / portable Hard disks in addition to the hard copies as mentioned in the deliverables. Consultant shall submit all other reports mentioned specifically in the preceding paras of the TOR.
- ii. The time schedule for various submissions prescribed above shall be strictly adhered to. No time overrun in respect of these submissions will normally be permitted. The consultant is advised to go through the entire terms of reference carefully and plan his work method in such a manner that various activities followed by respective submissions as brought out at Sl.No.1 above is completed as stipulated.

**Note:**

- \* Consultants have to provide a certificate that all key personnel as envisaged in the Contract Agreement has been actually deployed in the project. They have to submit this certificate and timesheet duly signed by the respective ULB/ KWA at the time of submission of bills to the Client from time to time.
- \* Comments/Suggestions/ modifications/amendments/ approvals, if any, on the reports submitted would be conveyed to the Consultant within 30 days (subject to the availability of the competent authority).
- \* Payments to NGOs/ Registered Societies / civil societies / Academic Institutions /Not for profit partners may be bifurcated and submitted if, GST or



any other taxes/ Govt. charges are not payable for NGOs/ Registered Societies / civil societies / Academic Institutions (proof of exemption to be submitted)

## 7 Firm's experience and list of key positions for the assignment

- a. The Firm must demonstrate strong prior experience of working on similar assignments in the water supply/ sewerage sector with International Development Agencies (multilateral and/or bilateral) in the India/South Asia Region at large. It is important for the consultants to demonstrate institutional experience in the execution of assignments focusing on project management of complex infrastructure.
- b. The firm must demonstrate its understanding of the regional context of Kerala and challenges related to the water supply/ sewerage sector
- c. The firm is expected to provide the required technical experts and other support staff/ analysts, as applicable to achieve the planned outputs.
- d. The firm shall propose the requested team which covers the necessary areas of expertise and ensure that the team is well-versed in the local context and linguistic requirements for the assignment. The firm will be required to supplement with adequate support staff to ensure quality and timely output.

## 8 Ownership:

Documents prepared by the Consultant to be the property of the Client. All deliverables in the form of data, software, designs, utilities, tools, models, systems, and other methodologies and know-how ("Materials") submitted by the Consultant under this Contract shall, not later than upon termination or expiration of this Contract, be delivered to the Client, together with a detailed inventory thereof.

## 9 Estimated Effort

SN	Team Structure for PDMC	No.	Full Time (FT)/ Part Time (PT)	Year 1	Year 2	Year 3
<b>Core Team</b>						
1	Team Leader	1	FT	12	12	6

**ANNEXURE-3**

<b>2</b>	<b>Hydraulic Network Engineer</b>	<b>1</b>	<b>PT</b>	<b>12</b>	<b>6</b>	<b>4</b>
<b>3</b>	<b>Design Engineer (Water supply)</b>	<b>1</b>	<b>PT</b>	<b>12</b>	<b>6</b>	<b>6</b>
<b>4</b>	<b>SCADA &amp; Instrumentation Expert</b>	<b>1</b>	<b>PT</b>	<b>4</b>	<b>8</b>	<b>4</b>
<b>5</b>	<b>Design Engineer (Wastewater)cum Environmental Management Expert</b>	<b>1</b>	<b>PT</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>6</b>	<b>Procurement Expert</b>	<b>1</b>	<b>PT</b>	<b>8</b>	<b>3</b>	<b>0</b>
<b>7</b>	<b>GIS/RS Specialist</b>	<b>1</b>	<b>PT</b>	<b>6</b>	<b>6</b>	<b>0</b>
<b>8</b>	<b>Hydrogeologist</b>	<b>1</b>	<b>PT</b>	<b>8</b>	<b>0</b>	<b>0</b>
<b>9</b>	<b>Social Mobilization cum IEC Expert</b>	<b>1</b>	<b>FT</b>	<b>12</b>	<b>12</b>	<b>6</b>

**10 Key Resources experience and qualification requirements**

**A - Core team (CVs to be assessed)**

Sl. No.	Position	Minimum Qualification	Experience	No
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### ANNEXURE-3

1.	Team Leader	Essential Qualifications : M Tech. / ME/MS in Civil or Environmental Engineering or Equivalent from a recognized university/institute	With a minimum of 15 years of working experience, experience in Urban WSS and design and evaluation of projects in urban WSS sector/ Sewerage sector, and excellent understanding of technical, economic, financial and institutional issues related to WSS operation in developing countries. This expert will lead the consultant team and guide/ supervise all the assessments.	1
2.	Hydraulic Network Engineer	M Tech. / ME/MS in Civil or Environmental Engineering or Equivalent from a recognized university/institute	Minimum 10 years of experience in distribution management and network design. He should have undertaken at least 2 assignments of hydraulic modeling in 2 different cities in the past 3 years.	1
3.	Design Engineer (Water Supply)	Post Graduate in Civil or Chemical Engineering or Public Health Engineering	Shall be professionally qualified with a minimum of 10 years of experience in the design, installation, and operations of water treatment plants. Well known with WATERGEM /EPANET software, SCADA, etc.	1
4.	SCADA & Instrumentation Expert	Graduation in Instrumentation/ Electronics/Electrical Engineering	Should have 10 years experience of which 5 years shall be in supervising Instrumentation, Control and Automation and SCADA-related works in water /wastewater plants. He should have undertaken instrumentation/control/ SCADA works in at least 3 WSS projects	1

### ANNEXURE-3

5.	Design Engineer (Wastewater) Cum Environmental Management Expert	Post-graduate in Environment Science / Environment Engineering	Environmental expert with 10 years of experience in the design of sewerage/ septage projects and should have at least 2 assignments related to ESMP / ESDDR/ EIA reports	1
6.	Procurement Expert	MBA / CA or equivalent	Minimum 10 years of experience in procurement of infrastructure projects for government agencies, must have relevant knowledge of WSS laws, municipal laws, and a good understanding of key legal and regulatory issues in the provision of WSS services arrangements.	1
7.	GIS/RS Specialist	B Tech. Or equivalent degree from a recognized university/institute	minimum of 5 years of experience in GIS/ RS data processing	1
8	Hydrogeologist	Post graduate degree in Geology/ Hydrogeology	10 years of Experience in groundwater-related studies.	1
9	Social Mobilization cum IEC Expert	Post Graduate in Journalism/ Social Work/Sociology/ Communication.	At least 10 years of work experience in liquid waste management, water supply systems, and IEC.	1

**Note:**

The personnel mentioned herein is expected to deliver the entire scope of work as per the Terms of Reference (ToR) even if there is no specific personnel associated with individual components mentioned in the ToR.

The above list is for Key Personnel only. The PDMC shall assess the requirement of Sub-Key professionals (Design – Estimation Engineer / Field Engineer/ CAD Engineer/ Surveyor// DEO etc.) and shall depute for the project.

For all the above positions following sub-criteria shall be followed:

If any key experts get less than 60 % marks, then he needs to be replaced at the time of negotiation.

After completing negotiations, the Client shall issue a Letter of Intent to the selected Consultant and promptly notify all other Consultants who have submitted proposals about the decision taken. At this stage Client may call the core experts for virtual or in-person interview before the signing of contract. Client may ask for replacement of any core expert if candidate is not found suitable for the position during the interview process.

**11 Replacement of Core team**

- a. Except as the “Client” may otherwise agree, no changes shall be made in the Personnel. If, for any reason beyond the reasonable control of the Consultant, such as retirement, death, or medical incapacity, among others, it becomes necessary to replace any of the Personnel, the Consultant shall forthwith provide as a replacement a person of equivalent or better qualifications.
- b. If the “Client” (i) finds that any of the Personnel has committed serious misconduct or has been charged with having committed a criminal action, or (ii) has reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Consultant shall, at the “Client’s” written request specifying the grounds therefore, forthwith provide as a replacement a person with qualifications and experience acceptable to the “Client”.
- c. The replacement of a Core team member beyond Clauses (a) and (b) shall attract a deduction of payment to the Consultants as specified in Section 6 of this RFP document.