

TENDER FOR PROVIDING

**THIRD PARTY QUALITY ASSURANCE AND QUALITY CONTROL SERVICES FOR
CONSTRUCTION OF STORM WATER DRAIN AND CANALS UNDER JNNURM SCHEME
PACKAGE V :ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER
SHED AREA,CENTER BUCKINGAM CANAL WATER SHED AREAAND SOUTH
BUCKINGAM CANAL WATER SHED AREA AREA IN CHENNAI CITY**



Tender Reference: S.W.D.C.No: B5/1900/ 2009

CORPORATION OF CHENNAI
Storm Water Drain Department,
Ripon Building,
Periyar EVR Salai, Chennai – 600003
Tel.: +91-44-25619316
Tele Fax: +91-44-25383962.

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Document Control Sheet

Tender for providing Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drains and Canals under JNNURM Scheme **PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA** in Chennai city.

Tender Reference	Package V: S.W.D.C.No: B5/1900/ 2009
Date of issue	1.06.2010
Pre Bid meeting	14.06.2010 at 4.00 P.M
Last Date for sale of Tender Document	23.06.2010 up to 3.00 P.M
Last Date and Time for Receipt of Tender	25.06.2010 up to 3.00 P.M
Date and Time of Opening of Tender	25.06.2010 3.30 PM
Officer Inviting Bids	The Superintending Engineer, Storm Water Drain Department, Corporation Of Chennai , Ripon Building, Periyar EVR Salai, Chennai – 600003 Tel.: +91- 44-25619316 And Tele Fax No. 044 - 25383962. seswd@chennaicorporation.gov.in
Tender Boxes kept at	Office of the Public Relations officer, Vigilance Officer, Chief Engineer(General) and Tender Sales Counter
Amount of Earnest Money Deposit (EMD) Demand Draft in favour of Commissioner, Corporation of Chennai.	Package V : Rs.117000/-

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SECTION 1 : LETTER OF INVITATION

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LETTER OF INVITATION

Dt.24.11.2009

1. Corporation of Chennai, in the form of grant of 35 % from the Government of India and with 15%of grant from the Government of Tamil Nadu and the balance 50% from the Corporation of Chennai contribution intends to cover eligible payments under the contract for storm water drainage construction in Chennai Corporation and QAQC services will also be met in the above fund.
2. For and behalf of Commissioner, Corporation of Chennai. The Superintending Engineer , Storm Water Drain Department , Corporation of Chennai, Ripon Building, Chennai 600 003 now invites proposals for Tender for providing Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drains and Canals under JNNURM Scheme **PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA** in Chennai city.

More details on the QAQC services are provided in the attached Terms of Reference.

1. Prequalification Criteria :-

The invitation of Quality Assurance and Quality Control services is open to all agencies satisfying the following criteria.

- 1.1 The QAQC tenderer should have experience in Providing Quality Assurance and Quality Control services for similar nature of work during last three years.

Financial Year	Value of Consultancy Services provided for Construction of Civil works.
2009-10	
2008-09	
2007-08	

- 1.2 The QAQC agency should have done similar consultancy services for a project value not less than Rs.116 Crores during the last three years in State / Central Government /Quasi Government/ Government Undertakings .

Note: The agency should submit the completion certificate obtained from the client not below the rank of Executive Engineer or equivalent.

- 1.3 Out of the last three years, in any one of the two consecutive years the QAQC tenderer financial turnover should not be less than Rs.3.48 Crores.

Financial Year	Financial Turnover
2009-10	
2008-09	
2007-08	

1.4 Bid Capacity :

The Available bid capacity shall be more than **Package V : Rs.1.17 Crores**. Available bid capacity will be calculated as under.

Assessed Available Bid Capacity= (AXNX1.5-B)

Where,

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A = Maximum value of Financial Turnover in any one year during the last three years (Updated to 2009-2010 price level) taking into account the completed as well as works in progress based on the weightage as below.

N= Number of years prescribed for completion of Construction works i.e 24 Months.

B= Value, at 2009-2010 price level, of existing commitments and on-going works to be completed during the next 24 months based on the weightage as below.

Note: The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.

Weightage

Financial turnover and cost of completed works of previous years shall be given weightage of 10% per year based on Rupee value to bring them to 2009-2010 price level.

The following enhancement shall be used for the costs of work executed and the financial figures to a common base value for work completion.

Year	Factor of Index
2007-08	1.21
2008-09	1.10
2009-10	1.00

The applicant will indicate actual figures of Cost and Amounts in the schedule without accounting for the above mentioned factors.

While evaluating the bid capacity in opening of Financial bids of subsequent package, the bid value of lowest offer in other packages (Financial bids opened) value also be taken in to account and will be treated as work on hand.

1.5 Key personnel:

The key personnel shall be the employee of the organization and the required Key personals of the QAQC tender for this project are as listed below.

Key professional staff (Qualification enclosed in TOR)

Sl.No.	Expert	No. of Persons
1	Team Leader	1
2	Senior Quality Engineer	1
3	Site Engineer	8
4	Data Entry Operator	1
5	Lab Analyst	1

The minimum required key personals along with their names and experience to be furnished in the Technical Bid . The same personals can not be engaged for any other works. If the minimum key personals are considered once in any of the contract as the lowest Bidder, then the same personals can not be considered for subsequent tenders.

Experience and qualifications are as per the conditions given under CLAUSE 5 of Terms of Reference.

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1.6 Lab:

QAQC Tenderer should own/hire the lab to test the materials as per BIS. The building for laboratory shall be owned / or rented located within the Chennai Corporation limit area to test the materials as per BIS . The tied up lab should be any Technical Educational Institute / Government authorized testing labs for which documentary evidence attested by Notary Public has to be produced while submitting the tender. List of equipments are as per Annexure - B-I and Tests to be conducted as per Annexure - C-I of TOR. Calibration certificates for the devices used for testing should be obtained and Periodical Calibration to be done as per BIS norms.

However QAQC tenderer must own mobile testing laboratory with the equipments listed in Annexure- B - II and test to be conducted are as per Annexure – C-II of TOR.

1.7 The QAQC tenderer should have submitted their I.T Returns of the last 3 years. (2007-08, 2008-09, 2009-10).

1.8 Eligible Bidders:

All bidders that have been engaged by the COC to execute the works, or to provide consulting services for preparation of the projects and any of its affiliates shall not be eligible to bid.

Government – owned enterprises may only participate if they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Employer.

Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Central government , State Government or any public sector undertakings.

Note: Bidders who meet the minimum eligible criteria as per prequalification conditions alone will be considered for the financial bids.

Financial bids of various packages will be opened in different dates, starting from higher value of tender package sequentially . The date of opening of Financial bids will be informed to all the eligible bidders.

The Educational institutions of Central / State Government are exempted from all the above clauses and EMD.

Joint venture will not be considered.

2. Submission of tender :

The Tender Document is obtainable from the Tender Sales Counter, Corporation of Chennai, Ripon Buildings, Chennai – 600 003, on all working days till 3.00 pm on **23.06.2010**, on payment of Rs.16,875/- in the form of Demand Draft of any Nationalized Bank / Scheduled Bank payable at Chennai drawn in favour of Commissioner, Corporation of Chennai, Chennai – 600 003. Tender documents can also be obtained by Registered Post or Courier by sending a requisition letter addressed to Superintending Engineer, Storm Water Drain Department, Ripon Buildings, Chennai - 600 003 enclosing a Demand Draft for the Value of Tender Documents plus Rs.1,000/- at the risk and responsibility of the prospective Tenderer. Alternatively, Tender documents can be downloaded free of cost from the websites www.tenders.tn.gov.in and www.chennaicorporation.gov.in. The downloaded tender document shall be submitted without cost of tender document. In case if any deviation is found in the tender document submitted by the tenderer from the content mentioned in the web sites his tender shall liable to be rejected at any stage of the contract.

A Pre-Bid meeting will be held on **14.06.2010** at 4.00 p.m. at the Old Conference Hall in the Ripon Buildings, Corporation of Chennai, Chennai - 600 003.

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The Proposal shall be in two parts: COVER A - Technical bid and COVER B - Financial bid. The proposal should be submitted in two separate envelopes, which should be addressed to Superintending Engineer, Storm Water Drain Department, Corporation of Chennai, Ripon Buildings, Chennai – 600 003. Both cover-A and cover-B shall be named as Technical Bid and Financial Bid respectively, shall be wax sealed separately and shall be put in an *outer sealed cover-C*. The outer wax sealed cover –C shall be marked as **Tender for providing Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drains and Canals PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA** in Chennai city .

The Tenders must be dropped as a single sealed cover in any one of the Tender Boxes kept for this work at the (1) Chief Engineer (General) Office, (2) Public Relations Officer (3) Office of the Vigilance Officer and (4) Tender Sales Counter, Ripon Buildings, Corporation of Chennai, on or before 3.00 p.m. on **25.06.2010**. The Technical bids will be opened at 3.30 pm on the same day in the presence of available Tenderers or their authorized representatives.

EMD Amount Rs. 117000/- in the form of Demand Draft of any Nationalized Bank / Scheduled Bank payable at Chennai drawn in favour of Commissioner, Corporation of Chennai, Chennai – 600 003. **EMD in the form of Bank Guarantee will not be accepted.**

The filled up Tender Documents can also be sent by Post or by Courier to the Superintending Engineer, Storm Water Drain Department / Tender Sales Counter, Corporation Of Chennai, Ripon Buildings, Chennai – 600 003 and the Corporation of Chennai shall not be responsible for any delay in transit. The Tenders received after the due date and time will not be considered under any circumstances.

If the office happens to be closed on the day as specified, the Tenders will be received and opened on the next working day at the same time and venue. Superintending Engineer, Storm Water Drain Department may be contacted in person for any clarification on all working days from 2.00p.m to 5.00p.m. Or over Telephone Nos. +91- 44- /25619316 and Tele-Fax No. 044 – 25383962.

Corporation of Chennai reserves the right to reject any or all proposals and reserves the right to cancel the invitation, advance or postpone without assigning any reasons whatsoever.

Superintending Engineer,
Storm Water Drain Department,

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SECTION 2.
INSTRUCTIONS TO QAQC TENDERERS

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INSTRUCTIONS TO QAQC TENDERERS

Definitions	<p>(a) "COC" means, Corporation of Chennai.</p> <p>(b) "Client" means COC with which the selected QAQC Tenderer signs the contract for the service. .</p> <p>(c) "QAQC Tenderer" means any entity or person that may provide or provides the Quality Assurance and Quality Control Services to the COC under the Contract.</p> <p>(d) "Contract" means the Contract signed by the Parties and all the attached documents listed in its Clause -1 that is the General Conditions (GC), the Special Conditions (SC), and the Appendices. (e) "Data Sheet" means such part of the Instructions to QAQC Tenderers used to reflect specific country and assignment conditions.</p> <p>(f) "Day" means calendar day.</p> <p>(g) "Government" means the government of the Client's country.</p> <p>(h) "Instructions to QAQC Tenderers" (Section 2 of Tender Document) means the document with all information.</p> <p>(i) "LOI" (Section 1 of Tender document) means the Letter of Invitation.</p> <p>(j) "Personnel" means professionals and support staff provided by the QAQC Tenderer and assigned to perform the Services.</p> <p>(k) "Services" means the work to be performed by the QAQC Tenderer pursuant to the Contract.</p> <p>(l) "Terms of Reference" (TOR) means the document included in the tender Document as Section 5 which explains the objectives, scope of work, activities, tasks to be performed, respective responsibilities of the COC and the QAQC Tenderer, and expected results and deliverables of the assignment.</p> <p>(m) "BIS" means Bureau of Indian Standards</p> <p>(n) "QAQC" means Quality assurance and Quality control tenderer</p> <p>(o) "Proposal" means The Technical Bid and Financial Bid</p> <p>(p) "Consultant" means QAQC Tenderer.</p> <p>(q) "Construction Agency" means agency engaged by the Client to execute project construction work.</p> <p>(r) "Civil Contractor" mean persons engaged by the Client to perform construction work.</p>
1. Introduction	<p>1.1 The Client named in the Data Sheet will select QAQC service providers from the tenderers who submitted the proposals within the date specified and in accordance with the method of selection.</p> <p>1.2 The Tenderers are invited to submit a Technical bid and a Financial bid as specified in the Data Sheet, for QAQC services required for the assignment named in the Data Sheet. The Proposal will be the basis for contract negotiations and ultimately for a signed Contract with the selected QAQC Tenderer.</p>
	<p>1.3 QAQC Tenderers should familiarize themselves with local conditions and take them into account in preparing their Proposals. To</p>

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	<p>obtain first-hand information on the assignment and local conditions, QAQC Tenderers are encouraged to visit the Client before submitting a proposal and to attend a pre-bid meeting if one is specified in the Data Sheet. Attending the pre-bid meeting is optional. QAQC Tenderers should contact the COC's representative named in the Data Sheet to arrange for their visit or to obtain additional information on the pre-bid meeting. QAQC Tenderers should ensure that these officials are advised of the visit in adequate time to allow them to make appropriate arrangements.</p>
	<p>1.4 The Client will not provide at no cost to the QAQC Tenderers the inputs and facilities specified in the Data Sheet, assist the firm in obtaining licenses and permits needed to carry out the services, and make available relevant project data and reports.</p> <p>1.5 QAQC Tenderers shall bear all costs associated with the preparation and submission of their proposals and contract negotiation. The Client is not bound to accept any proposal, and reserves the right to cancel the selection process at any time prior to Contract award, without thereby incurring any liability to the QAQC Tenderers.</p>
<p>1.6 General Terms and Conditions</p>	<p>TERMS AND CONDITIONS:</p> <p>The following terms and conditions are intended to sensitize the QAQC tenderer to various clauses, which may be reflected in the final Contract.</p> <ul style="list-style-type: none"> • The validity period of the tender will be 120 (One hundred and twenty) days from the last date of submission of the tender. • The Commissioner, Corporation of Chennai reserves the right of rejecting / canceling of any part of or whole tender without assigning any reason. • The Commissioner Corporation of Chennai has right to call for negotiation from the QAQC tenderer who has quoted the lowest rate. • The successful QAQC tenderer should ensure the compliance of all the provision of labour laws, Tax laws and local laws as applicable during the tenure of the contract. The successful QAQC tenderer shall be fully responsible for any default or any non-compliance of any statutory laws, rules and regulations framed by Central Government, State Government or Local bodies from time to time as applicable. • Except the payment as per the terms of the contract, Corporation of Chennai will not entertain any extra claim during or after the contract period. • The successful QAQC tenderer shall provide additional facilities if necessary to complete the work within the prescribed period. • All the man power cost required to complete this work must be borne by the successful QAQC tenderer. • The entire cost of all stationeries and printing required for this Quality Assurance service must be borne by the successful QAQC tenderer. • The Corporation of Chennai reserves the right to extend the contract period for a reasonable period, if necessary, on valid

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	grounds.
2. Conflict of Interest	<p>2.1 COC requires that QAQC Tenderers provide professional, objective, and impartial advice and at all times hold the Client's interests paramount, strictly avoid conflicts with other assignments or their own corporate interests and act without any consideration for future work.</p> <p>2.2 Without limitation on the generality of the foregoing, QAQC Tenderers, and any of their affiliates, shall be considered to have a conflict of interest and shall not be recruited, under any of the circumstances set forth below:</p>
	<p>2.3 Quality Assurance tenderer not to benefit from Commissions, Discounts, etc The remuneration of the QAQC tenderer shall constitute the QAQC tenderer sole remuneration in connection with this contract or the service, the QAQC tenderer shall not accept for their own benefit any trade commission discount or similar payment in connection with activities pursuant to this contract or to the service or in the discharge of their obligation hereunder and the QAQC tenderers shall use their best efforts to ensure that they shall not receive any such additional remuneration.</p>
	<p>2.4 Quality Assurance tenderer and affiliates not to engage in certain Activities The QAQC tenderer agree that, during the term of this contract, the QAQC tenderer and any entity affiliated with the QAQC tenderer, shall be disqualified if they provide any service or goods to the Construction Agency , which is not in the interest of COC.</p>
	<p>2.5 Prohibition of conflicting Activities Neither the QAQC tenderer shall engage either directly or indirectly or indicted in any of the following activities. a) During the term of this contract, any business or professional activities in the government's country which would conflict with the activities assigned to them under this contract or b) After the termination of this contract, such other activities as may be specified in the contract</p>
	<p>2.6 QAQC Tenderers have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their COC , or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the QAQC Tenderer or the termination of its Contract.</p> <p>2.7 No agency or current employees of the COC shall work as QAQC Tenderers under their own ministries, departments or agencies. Recruiting former government employees of the Client to work for their former ministries, departments or agencies is acceptable provided no conflict of interest exists. When the QAQC Tenderer nominates any government employee as Personnel in their technical proposal, such Personnel must have written certification from their government or employer confirming that they are on leave without pay from their official position and allowed to work full-time outside of their previous official position. Such certification shall be provided to the Client by the QAQC Tenderer as part of his technical proposal.</p>
3. Fraud and Corruption	<p>3.1 The COC requires that the QAQC Tenderers adhere to the highest ethical standards, both during the selection process and throughout the execution of a contract. In pursuance of this policy, the Client:</p> <p>(a) defines, for the purpose of this paragraph, the terms set forth below as follows:</p>

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	<ul style="list-style-type: none"> (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the selection process or in contract execution; (ii) "fraudulent practice" means a misrepresentation or omission of facts in order to influence a selection process or the execution of a contract; (iii) "collusive practices" means a scheme or arrangement between two or more QAQC Tenderers with or without the knowledge of the Client, designed to establish prices at artificial, noncompetitive levels; (iv) "coercive practices" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract.
4. Commissions and Fees	The successful QAQC Tenderer to disclose any commissions or fees that may have been paid or are to be paid to agents, representatives, or commission agents with respect to the selection process or execution of the contract. The information disclosed must include at least the name and address of the agent, representative, or commission agent, the amount and currency, and the purpose of the commission or fee.
5. Origin of Goods and Consulting Services	<p>5.1 QAQC Services provided under the Contract may originate from any country except if:</p> <ul style="list-style-type: none"> (i) as a matter of law or official regulation, the Client's country prohibits commercial relations with that country; or (ii) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Client's Country prohibits any imports of goods from that country or any payments to persons or entities in that country.
6. Only one Proposal	6.1 QAQC tenderers may submit one bid for One work. A bidder, who submits more than one bid for the same work, will be liable for disqualification.
7. Proposal Validity	7.1 The Data Sheet indicates how long QAQC Tenderers' Proposals must remain valid after the submission date. During this period, QAQC Tenderers shall maintain the availability of Professional staff nominated in the Proposal. The Client will make its best effort to complete negotiations within this period. Should the need arise, however, the Client may request QAQC Tenderers to extend the validity period of their proposals. QAQC Tenderers who agree to such extension shall confirm that they maintain the availability of the Professional staff nominated in the Proposal, or in their confirmation of extension of validity of the Proposal, QAQC Tenderers could submit new staff in replacement, who would be considered in the final evaluation for contract award. QAQC Tenderers who do not agree have the right to refuse to extend the validity of their Proposals.
8. Tender for proposal	The QAQC tenderer is expected to examine all instructions, forms, terms and specifications contained in this document. The proposal should be precise, complete and in the prescribed format as per the requirements of this tender document. Failure to furnish all information required by this tender document or submission of applications not responsive to this tender document in every respect will be at the applicant's risk and may result in rejection.

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<p>9. Content of Tender Document</p>	<p>This document has to be read in its entirety. The terms and conditions for the tender encompasses all the terms and conditions mentioned in this document. However Corporation of Chennai reserves the right to alter any of the above-mentioned data at a short notice. The same will be intimated to all the concerned parties. Before submitting the proposal due diligence can be undertaken by QAQC tenderer at his / her own cost.</p>
<p>10. Clarification and Amendment of Tender Documents</p>	<p>A prospective QAQC tenderer requiring any clarification on the tender document may notify Corporation of Chennai in writing to Superintending Engineer, Storm Water Drain Department, Ripon buildings, Corporation of Chennai, Chennai-600 003.</p> <p>In case any one of the QAQC tenderer asks for a clarification to the tender documents before 48 hours of the opening of the Tender, Corporation of Chennai shall ensure that a reply is sent and copies of the reply to the clarification sought will be communicated to all those who have purchased the tender documents without identifying the source of the query. The reply will be published as addendum in the website www.tenders.tn.gov.in and the tenderer shall submit the same while submitting the tender</p> <p>At any time after the issue of the tender documents and before the opening of the tender, Corporation of Chennai may make any changes, modifications or amendments to the tender documents and shall send intimation of such change to all those who have purchased the original tender documents and will be published as addendum in the website www.tenders.tn.gov.in and the tenderer shall submit the same while submitting the tender.</p> <p>At any time before the submission of Proposals, the Client may amend the Tender Document by issuing an addendum. The addendum shall be sent to all the agencies who attend the Pre-bid meeting and will be binding on them. QAQC Tenderers shall acknowledge receipt of all amendments. To give QAQC Tenderers reasonable time in which to take an amendment into account in their Proposals the Client may, if the amendment is substantial, extend the deadline for the submission of Proposals.</p>
<p>11. Format and signing of tender</p>	<p>This tender document in original should be properly bound along with all enclosures as mentioned in pre qualification criteria. The enclosures may be typed or printed in a clear typeface or good quality photocopies of the original. An accompanying letter is required, signed by an authorized signatory of the QAQC tenderer, committing the QAQC tenderer to the contents of the original response. Each tender shall be made in the legal name of the QAQC tenderer and shall be signed by the QAQC tenderer or a person duly authorized to sign on behalf of the QAQC tenderer. The QAQC tenderer must stamp and initial on all pages</p>

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	of this document and also the enclosures.
12. Late tenders	Any tender received after the deadline for submission of tenders, shall be rejected and returned to the tenderer unopened.
13. Period of Tender validity	The tenders shall be valid minimum for a period of "120 days", from the date of opening of tenders. On completion of the validity period, unless the QAQC tenderer withdraws his tender in writing, it will be deemed to be valid until such time that the QAQC tenderer formally (in writing) withdraws his tender.
14. Preparation of Proposals	14.1 The Proposal as well as all related correspondence exchanged by the QAQC Tenderers and the Client, shall be written in the language (s) specified in the Data Sheet.
	14.2 In preparing their Proposal, QAQC Tenderers are expected to examine in detail the documents comprising the Tender document. Material deficiencies in providing the information requested may result in rejection of a Proposal.
	14.3 While preparing the Technical Proposal, QAQC Tenderers must give particular attention to the following:
15. Language	15.1 All proposal and supporting documentation shall be submitted in English only. All the Certification and Documents should be in English Or Officially (Embassy) certified copy in English should be enclosed.
16. Technical Proposal Format and Content	16.1 Depending on the nature of the assignment, QAQC Tenderers are required to submit a Technical bid. The Data Sheet indicates the format of the Technical bid to be submitted. Submission of the wrong type of Technical bid will result in the Proposal being deemed non-responsive. The Technical bid shall provide the information indicated in the following paras from (a) to (c) using the attached Standard Forms (Section 3).
	a) CVs of the Professional staff signed by the staff themselves or by the authorized representative of the Professional Staff (Form TECH-4 of Section 3).
	b) The Technical Proposal shall not include any financial information. A Technical Proposal containing financial information may be declared non responsive.
17. Financial Proposals	17.1 The Financial proposal shall be prepared using the attached Standard form in Section 4. The rates should be quoted in the Form FIN 2 only. The Financial bid cover should contain Standard Forms of Section 4 alone. The rate includes all costs associated with the assignment, all remuneration for staff etc., .
18. Taxes	18.1 The QAQC tenderer may be subject to local taxes(such as : Value added tax, Sales tax, Service tax, professional tax, Social charges or Income tax on Non resident Foreign Personnel, duties, Fees, Levies) on amounts payable by the Client under the contract. The quoted rate is inclusive of all applicable taxes and duties.
	18.2 QAQC Tenderers may express the price only in Indian Rupees. 18.3 Commissions and gratuities, if any, paid or to be paid by QAQC Tenderers and related to the assignment will be listed in the Financial Proposal Form FIN-1 of Section 4.
19. Submission, Receipt, and Opening of Proposals	19.1 The original proposal (Technical Proposal and Financial Proposal) shall contain no interlineations or overwriting, except as necessary to correct errors made by the QAQC Tenderers themselves. The person who signed the proposal must initial such

Signature of tenderer

	<p>corrections. Submission letters for both Technical and Financial Proposals should respectively be in the format of TECH-1 of Section 3, and FIN-1 of Section 4.</p> <p>19.2 An authorized representative of the QAQC Tenderers shall initial all pages of the original Technical and Financial Proposals. The authorization shall be in the form of a written power of attorney accompanying the Proposal or in any other form demonstrating that the representative has been duly authorized to sign. The signed Technical and Financial Proposals shall be marked "ORIGINAL".</p> <p>19.3 The Technical Proposal shall be marked "ORIGINAL" as appropriate. The Technical Proposals shall be sent to the addresses referred and in the number of copies indicated in the Data Sheet. All required copies of the Technical Proposal are to be made from the original.</p> <p>19.4 The original and all copies of the Technical Proposal shall be placed in a sealed envelope clearly marked "TECHNICAL PROPOSAL" Similarly, the original Financial Proposal (if required under the selection method indicated in the Data Sheet) shall be placed in a sealed envelope clearly marked "FINANCIAL PROPOSAL" followed by the name of the assignment, and with a warning "DO NOT OPEN WITH THE TECHNICAL PROPOSAL." The envelopes containing the Technical and Financial Proposals shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address, reference number and title, and be clearly marked "DO NOT OPEN, EXCEPT IN PRESENCE OF THE OFFICIAL APPOINTED, BEFORE 25.06.2010 3.30 PM". The Client shall not be responsible for misplacement, losing or premature opening if the outer envelope is not sealed and/or marked as stipulated. This circumstance may be case for Proposal rejection. If the Financial Proposal is not submitted in a separate sealed envelope duly marked as indicated above, this will constitute grounds for declaring the Proposal non-responsive.</p>
	<p>19.5 The Proposals must be sent to the address/addresses indicated in the Data Sheet and received by the COC no later than the time and the date indicated in the Data Sheet, or any extension to this date in accordance with para. 10. Any proposal received by the Client after the deadline for submission shall be returned unopened.</p> <p>19.6 The Client shall open the Technical Proposal immediately after the deadline for their submission. The envelopes with the Financial Proposal shall remain sealed and securely stored.</p>
<p>20. Proposal Evaluation</p>	<p>20.1 From the time the Proposals are opened to the time the Contract is awarded, the QAQC Tenderers should not contact the Client on any matter related to its Technical and/or Financial Proposal. Any effort by QAQC Tenderers to influence the Client in the examination, evaluation, ranking of Proposals, and recommendation for award of Contract may result in the rejection of the QAQC Tenderer's Proposal.</p> <p>Evaluators of Technical Proposals shall have no access to the Financial Proposals until the technical evaluation is concluded.</p>
<p>21. Evaluation of Technical Bids</p>	<p>Evaluation will be based on prequalification criteria and shall qualify the QAQC tenderer for further processing. A committee may also be formed if necessary to evaluate and recommend for further processing.</p> <p>The financial bids of the technically short listed QAQC tenderer only shall be opened in the presence of their representatives on the specified date and time which will be intimated later. There shall be no</p>

Signature of tenderer

<p>22. Price Quotation</p>	<p>negotiations regarding the Financial Bidding, except with the QAQC tenderer who has quoted lowest amount.</p> <p>The QAQC tenderer shall quote the rates as mentioned in Schedule-B Financial Bidding for 24 Months of contract period for the service to be provided.</p> <p>Any deviations from the format provided shall be treated as invalid. The QAQC tenderer must quote the rate both in figures and words. In case of any dispute in the prices quoted, the lowest will be considered. The rate shall be inclusive of all Taxes. If quoted exclusive of taxes, then it shall be treated as inclusive of taxes only. Only one rate shall be quoted for each item. If more than one rate is quoted for a single package the tender shall be rejected. The rate shall be quoted unconditionally and Conditional offers shall be rejected. Rate once fixed shall be valid for 24 Months period or till the end of the contract.No tender will be considered unless the rate is furnished both in figures and words.</p>
<p>23. Contract period</p>	<p>The finalized rate of this Proposal shall be valid for the entire Contract Period, i.e., 24 Months from the date of commencement and can be extended from time to time on mutual agreement. The agreement must be entered upon within 14 (Fourteen) days of receipt of work order.</p>
<p>24. Signing of Contract and Security Deposit</p>	<p>The Successful QAQC tenderer shall be required to enter into agreement with the Corporation of Chennai within 14 (Fourteen only) days from the date of receipt of the award of the work from Corporation of Chennai. This contract shall be on the basis of this document, the proposals of the QAQC tenderer and other terms and conditions as may be mutually determined by the Corporation of Chennai to be necessary for the due performance of the work.</p> <p>The Successful QAQC tenderer shall be required to submit Performance Guarantee in the form of irrevocable bank guarantee (Annexure – V) issued by any scheduled bank for 2% of the consultancy services cost for PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA in Chennai city.</p> <p>The Performance Bank Guarantee shall be valid for twoyears after the completion of the project. The tenderer shall renew if required.</p> <p>If the successful tenderer fails to furnish such Performance Guarantee and execute the agreement the EMD will be forfeited and debar them in participating the future tenders. In such an event, COC reserves the right to</p> <ol style="list-style-type: none"> a. Either invite the next lowest Tenderer for negotiations or b. Take any such measures as may be deemed fit in the sole discretion of COC, including annulment of the tendering process. <p>Notwithstanding anything contained in this TENDER, COC reserves the right to accept or reject any Proposal, or to annul the tendering process or reject all Proposals, at any time without any liability or any obligation for such rejection or annulment, without assigning any reasons thereof.</p>

Signature of tenderer

<p>25. Public Opening and Evaluation of Financial Proposals</p>	<p>25.1 After the technical evaluation is completed the Client shall inform the QAQC Tenderers who have submitted proposals, and shall notify those QAQC Tenderers whose Proposals did not meet the minimum qualifying considered non responsive to the Tender Document and TOR, that their unopened Financial Proposals will be returned if they preferred, after completing the selection process. The Client shall simultaneously notify in writing QAQC Tenderers that have satisfied Eligible Criteria, the date, time and location for opening the Financial Proposals. The opening date should allow QAQC Tenderers sufficient time to make arrangements for attending the opening. QAQC Tenderers' attendance at the opening of Financial Proposals is optional.</p> <p>25.2 Financial Proposals shall be opened publicly in the presence of the QAQC Tenderers' representatives who choose to attend. The name of the QAQC Tenderers, shall be read aloud. These Financial Proposals shall be then opened, and the total prices read aloud and recorded.</p> <p>25.3 The Evaluation Committee will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount, or between word and figures the formers will prevail. In addition to the above corrections, as indicated under 17 of Instruction to QAQC tenderers, activities and items described in the Technical Proposal but not priced, shall be assumed to be included in the prices of other activities or items.</p>
<p>26. Negotiations</p>	<p>26.1 There shall be no negotiations regarding the financial bid except with the QAQC tenderer who has quoted the lowest amount. Negotiations will be held at the date and address indicated in the Data Sheet. The invited QAQC Tenderer will, as a pre-requisite for attendance at the negotiations, confirm availability of all Professional staff. Failure in satisfying such requirements may result in the Client proceeding to negotiate with the next-ranked QAQC Tenderer. Representatives conducting negotiations on behalf of the QAQC Tenderer must have written authority to negotiate and conclude a Contract.</p>
<p>27. Technical negotiations</p>	<p>27.1 Negotiations will include a discussion of the Technical Proposal, the proposed technical approach and methodology, work plan, and organization and staffing, and any suggestions made by the QAQC Tenderer to improve the Terms of Reference. The Client and the QAQC Tenderers will finalize the Terms of Reference, staffing schedule, work schedule, logistics, and reporting. These documents will then be incorporated in the Contract as "Description of Services". Special attention will be paid to clearly defining the inputs and facilities required from the Client to ensure satisfactory implementation of the assignment. The Client shall prepare minutes of negotiations which will be signed by the Client and the QAQC Tenderer.</p>
<p>28. Financial negotiations</p>	<p>28.1 If applicable, it is the responsibility of the QAQC Tenderer, before starting financial negotiations, to contact the local tax authorities to determine the local tax amount to be paid by the QAQC Tenderer under the Contract. The financial negotiations will include a clarification (if any) of the firm's tax liability in the Client's country, and the manner in which it will be reflected in the Contract; and will reflect the agreed technical modifications in the cost of the services. Unless there are exceptional reasons, the financial negotiations will involve neither the remuneration rates for staff nor other proposed unit rates.</p>

Signature of tenderer

29. Availability of Professional staff/experts	29.1 Having selected the QAQC Tenderer on the basis of, among other things, an evaluation of proposed Professional staff, the Client is expected to negotiate a Contract on the basis of the Professional staff names mentioned in the Proposal. The Professional staff mentioned in the document should be physically available at site during execution of work. The substitutions of staff will not be accepted unless agreeable by both the parties (i.e) COC and tenderer. Any such proposed substitution shall have equivalent or better qualifications and experience than the original candidate already submitted by the QAQC tenderer.
30. Conclusion of the negotiations	30.1 Negotiations will conclude with a review of the draft Contract. To complete negotiations the Client and the QAQC Tenderer will initial the agreed Contract. If negotiations fail, the Client will invite the second lowest QAQC Tenderer to negotiate a Contract.
31. Award of Contract	<p>31.1 After completing negotiations the Client shall award the Contract to the Successful QAQC Tenderer and promptly notify all QAQC Tenderers who have submitted proposals. After Contract signature, the Client shall return the unopened Financial Proposals to the unsuccessful QAQC Tenderers if preferred by them.</p> <p>31.2 The QAQC Tenderer is expected to commence the assignment on the date and at the location specified in the Data Sheet.</p>
32. Confidentiality	32.1 Information relating to evaluation of Proposals and recommendations concerning awards shall not be disclosed to the QAQC Tenderers who submitted the Proposals or to other persons not officially concerned with the process, until the publication of the award of Contract. The undue use by any QAQC Tenderer of confidential information related to the process may result in the rejection of its Proposal and may be subject to the provisions of the COC's antifraud and corruption policy.

Signature of tenderer

Instructions to QAQC Tenderers

DATA SHEET

Paragraph Reference	
1.1	Name of the Client: Commissioner, Corporation of Chennai , Ripon Building, Chennai. TAMILNADU INDIA Pin: - 600 003 Ph: 044 25619316 www.chennaicorporation.gov.in
1.2	Financial Proposal to be submitted together with Technical Proposal: No Name of the assignment is: Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drains and Canals under JNNURM Scheme PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA in Chennai city.
1.3	A pre-bid meeting will be held: Yes Date:- 14/06/2010 4.00pm Venue:-Old Conference hall , Ripon Building, Chennai 3. The Client's representative is: Superintending Engineer, Strom water Drain Department, Corporation of Chennai , Chennai, TAMILNADU INDIA Pin: - 600 003 Ph: 044 25619316 Email id: seswd@chennaicorporation.gov.in
1.4	The Client will provide the following inputs and facilities: As specified in Para 4 – Client Support in TOR
1.5	Proposals must remain valid 120 days after the submission date, i.e. until: 22/10/2010.
2.1	Clarifications may be requested not later than 48 hours before the submission date . The address for requesting clarifications is: Superintending Engineer, Strom water Drain Department, Corporation of Chennai , Chennai, TAMILNADU INDIA Pin: - 600 003 Ph: 044 25619316 Email id: seswd@chennaicorporation.gov.in
3.1	Proposals shall be submitted in the following language:- English
3.2	The estimated number of key personnel staff-months required for the assignment is: 24 Months..
3.3	The format of the Technical Proposal to be submitted is: Full Technical Proposal
3.4	Amounts payable by the Client to the QAQC Tenderer under the contract to

Signature of tenderer

	be subject to local taxation: Yes.
3.5	QAQC Tenderer to state local cost in the national currency: Yes.
4.3	QAQC Tenderer must submit one set of the Technical Bid and one set of Financial Bid.
4.5	<p>The Proposal submission address is: Superintending Engineer, Strom water Drain Department, Corporation of Chennai , Chennai, TAMILNADU INDIA Pin: - 600 003 Ph: 044 25619316 Email id: seswd@chennaicorporation.gov.in Proposals must be submitted not later than the following date and time: 25.06.2010 up to 3.00pm.</p>
5.6	The single currency for price conversion is : Indian Rupees
6.1	<p>Expected date for negotiations: will be intimated later: Superintending Engineer, Strom water Drain Department, Corporation of Chennai , Chennai, TAMILNADU INDIA Pin: - 600 003 Ph: 044 25619316 Email id: seswd@chennaicorporation.gov.in</p>
7.2	<p>Expected date for commencement of QAQC services: Informed Later. On issuing of Work order for the QAQC services : QAQC tenderer has to start the Consultancy services as per clause 2.1 of GC. Office Address: Superintending Engineer, Strom water Drain Department, Corporation of Chennai , Chennai, TAMILNADU INDIA Pin: - 600 003. Ph: 044 25619316 Email id: seswd@chennaicorporation.gov.in</p>

Signature of tenderer

**SECTION 3.
TECHNICAL PROPOSAL**

Signature of tenderer

TECHNICAL PROPOSAL – STANDARD FORMS

Refer to Reference Paragraph 3.3 of the Data Sheet for format of Technical Proposal to be submitted, and paragraph 16 of Section 2 of the Tender document for Standard Forms required and number of pages recommended.

- TECH-1 Technical Proposal Submission Form
- TECH-2 Consultant's Organization and Experience
 - A Consultant's Organization
 - B Consultant's Experience
- TECH-3 Team Composition and Task Assignments
- TECH-4 Curriculum Vitae (CV) for Proposed Professional Staff
- TECH-5 Staffing Schedule

Signature of tenderer

FORM TECH-1 TECHNICAL PROPOSAL SUBMISSION FORM

[Location, Date]

To:

The Superintending Engineer,
Storm water drain department,
Corporation of Chennai,
Ripon Building,
Chennai,
Tamil Nadu, INDIA Pin:600 003.

Dear Sirs:

We, the undersigned, offer to provide the consulting services for Construction Quality Management & Technical Supervision under JNNURM Project in Chennai city in accordance with your tender document dated _____ and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope.

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, i.e., before the date indicated in Paragraph Reference 1.5 of the Data Sheet, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We undertake, if our Proposal is accepted, to initiate the consulting services related to the assignment not later than the date indicated in Paragraph Reference 7.2 of the Data Sheet.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

Signature of tenderer

FORM TECH-2 QAQC TENDERER'S ORGANIZATION AND EXPERIENCE

A - QAQC Tenderer's Organization

[Provide here a brief (two pages) description of the background and organization of your firm/entity and each associate for this assignment.]

Signature of tenderer

B - QAQC Tenderer's Experience

[Using the format below, provide **information for last three years** on each assignment for which your firm, and each associate for this assignment, was legally contracted either individually as a corporate entity or as one of the major companies within an association, for carrying out consulting services similar to the ones requested under this assignment.

Assignment name:	Approx. value of the contract
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total N ^o of staff-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract
Start date (month/year): Completion date (month/year):	N ^o of professional staff-months provided by associated consultants .
Name of associated QAQC Tenderers, if any:	Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader):
Narrative description of Project:	
Description of actual services provided by your staff within the assignment:	

Firm's Name: _____

Note: Client's Certificate is necessary to accounting the experience

Signature of tenderer

ANNEXURE – II :

Value of quality Control services offered in the last three financial years.

Financial Year	Value of Consultancy services provided for Construction of Civil Works
2007-08	
2008-09	
2009-10	

Note: Client's Certificate is necessary to accounting the experience.

Signature of tenderer

ANNEXURE – III :

Approximate value of work in hand value of existing commitment of Consultancy work(On going) to be completed during the next 24 months.(Period of Contract).

Sl.No.	Name of the project	Value of project

ANNEXURE IV**FINANCIAL TURNOVER OF LAST THREE YEARS.**

FINANCIAL YEAR	FINANCIAL TURNOVER
2009-2010	
2008-2009	
2007-2008	

Signature of tenderer

FORM TECH-3 TEAM COMPOSITION AND TASK ASSIGNMENTS

1. Professional Staff				
Name of Staff	Firm	Area of Expertise	Position Assigned	Task Assigned

2. Support Staff				
Name of Staff	Firm	Area of Expertise	Position Assigned	Task Assigned

Signature of tenderer

FORM TECH-4 CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF

1. **Proposed Position** [only one candidate shall be nominated for each position]: _____

2. **Name of Firm** [Insert name of firm proposing the staff]: _____

3. **Name of Staff** [Insert full name]: _____

4. **Date of Birth:** _____ **Nationality:** _____

5. **Education** [Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment]: _____

6. **Membership of Professional Associations:** _____

7. **Other Training** [Indicate significant training since degrees under 5 - Education were obtained]: _____

8. **Countries of Work Experience:** [List countries where staff has worked in the last ten years]: _____

9. Languages _____

10. **Employment Record** [Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.]:

From [Year]: _____ To [Year]: _____

Employer: _____

Positions held: _____

<p>11. Detailed Tasks Assigned</p> <p>[List all tasks to be performed under this assignment]</p>	<p>12. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned</p> <p>[Among the assignments in which the staff has been involved, indicate the following information for those assignments that best illustrate staff capability to handle the tasks listed under point 11.]</p> <p>Name of assignment or project: _____</p> <p>Year: _____</p> <p>Location: _____</p> <p>Client: _____</p> <p>Main project features: _____</p> <p>Positions held: _____</p> <p>Activities performed: _____</p>
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13. Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

[Signature of staff member or authorized representative of the staff] Date: _____
Day/Month/Year

Full name of authorized representative: _____

Signature of tenderer

SECTION 4
FINANCIAL PROPOSAL

Signature of tenderer

FINANCIAL PROPOSAL – STANDARD FORMS

Financial Proposal Standard Forms shall be used for the preparation of the Financial Proposal according to the instructions provided under para. 17 of Section 2. Such Forms are to be used whichever is the selection method.

FIN-1 Financial Proposal Submission Form

FIN-2 Summary of Costs

Signature of tenderer

FORM FIN-1 FINANCIAL PROPOSAL SUBMISSION FORM

[Location, Date]

To: Superintending Engineer,
Storm water Drain Department,
Corporation of Chennai ,
Chennai,
TAMILNADU
INDIA Pin: - 600 003

Ph: 044 25619316 Email id: seswd@chennaicorporation.gov.in [Name and address of Client]

Dear Sirs:

We, the undersigned, offer to provide the consulting services for [Tender for providing Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drains and Canals under JNNURM Scheme PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA in Chennai city.] in accordance with your Request for Financial Proposal dated [Insert Date]. Our attached Financial Proposal is for the rate. Specified in the Form FIN 2.

The Quoted rate should inclusive of all the taxes.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e. before the date indicated in **General terms and Conditions**.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act, 1988".

We understand you are not bound to accept any Proposal you receive.

We remain,
Yours sincerely,

Authorized Signature [In full and initials]: _____
Name and Title of Signatory: _____
Name of Firm: _____
Address: _____

-
- 1 Amounts must coincide with the ones indicated under Total Cost of Financial proposal in Form FIN-2.
 - 2 If applicable, replace this paragraph with: "No commissions or gratuities have been or are to paid by us to agents relating to this Proposal and Contract execution."

Signature of tenderer

FORM FIN-2 SUMMARY of Costs

1.Total Costs of Financial Proposal including all taxes and duties Providing Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drain and Canals under JNNURM Scheme in **PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA in Chennai city.**] including collection of samples as per Codes, testing of samples, testing of materials, verification of levels, including testing of all materials as pre-construction, during construction and post construction stages. and all works specified in TOR. Advising COC for improving the quality and durability of the works and supporting COC in technical direction.

QAQC tenderer should guide the contractors for proper implementation of the works and for improving the quality standards. The rate is inclusive of taxes, service tax, incidental charges, ground transportation, testing charges, lab equipment, salaries for professionals, documentation charges, communication charges and all sundries for a period of 24 Months from the date of Commencement.

Terms of payment will be on a man-month basis in accordance with the COC's terms and conditions.

Sl.No.	Key Personnel	Man-Months	Rate/Month(Rs. In words & Figures)	Amount (Rs.P.)
1.	<p>Team Leader</p> <p>Lead the consultancy team, Develop Quality control and Quality Assurance system based on Specifications and other Assignment as instructed by Executive Engineer. Submitting the weekly / monthly reports to Superintending Engineer/SWDD and attending the meeting conveyed Corporation of Chennai</p>	1x24		
2.	<p>Senior Quality Engineer</p> <p>Visiting the site , instructing the Site Engineers, and verifying the works carried out with the Drawings and specifications. Act as Coordinator technical and Resource person for the entire Assignment of Quality Control and Quality Assurance/ Quality Audit and other tasks as per terms of reference and other assignment instructed by Executive Engineer and also submitting testing report to Executive Engineer.</p>	1x24		

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3.	Site Engineer Supervising the Construction work of Storm water Drain /Canal works as per specifications in the estimates and as per the Drawings; collection of samples to test in the QAQC lab, taking pre and post levels , check for measurements as per drawings furnished by COC. Conducting all the tests as per BIS Norms in the construction Agency's laboratory and furnishing the test reports, and to carry out all the works as per TOR.	8x24		
4.	Data Entry Operator Enter all datas every day, prepare Daily, Weekly, Monthly reports. To submit Power Point presentation in the every review meeting with required charts and photos.	1x24		
5.	Providing the required facilities such as Office accommodation including Computer Systems with Printers, other tools and equipments, Communication System, Provision for Inspection vehicles,along with driver,including fuel cost etc...to perform QAQC services as specified in the tender condition.	-	Lumpsum	

NOTE: The rate for Key Personnel includes all applicable allowances and other charges.

SI No	No. of Tests	Description	Rate (Rs.in words & Figures)	Amount (Rs.P)
6.		<u>The following test to be conducted in the Ground laboratory and to furnish test reports in triplicate.</u> Rates for conducting lab test at QAQC tenderer's ground laboratory and furnishing the test reports in triplicate in the appropriate format (The Rate includes Rent of the laboratory building,lab equipment charges, wages of Technical Personnel for testing,supporting staff, transportation charges to collect the sample from the work site, documentation cost etc.,)		
		<u>SAND</u>		
	255	1.. Silt content test		

Signature of tenderer

Sl No	No. of Tests	Description	Rate (Rs.in words & Figures)	Amount (Rs.P)
	255	2. Organic Impurities		
	255	3. Bulking and Moisture Content		
	255	<u>AGGREGATE</u>		
	255	4. Sieve analysis test		
	255	5. Flakiness index – test		
	255	6. Elongation index test		
		<u>CUBE TEST</u>		
	764	7. Compressive strength (7 Days, 14 Days , 28 Days)		
	62	8. Cement content		
		<u>CEMENT</u>		
	71	9. Physical properties		
	71	10. Chemical properties		
	71	11. Loss on ignition		
	71	12. Consistency		
	71	13. Initial & Final Setting time		
	71	14. Fineness		
	71	15. Soundness		

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Sl No	No. of Tests	Description	Rate (Rs.in words & Figures)	Amount (Rs.P)
	71	16. Compressive strength		
	71	17. Insoluble Residue		
		<u>STEEL</u>		
	21	18. Tensile strength		
	21	19. Bend test ultimate strength and percentage of elongation		
	21	20. Rebend test		
	21	21. Section Weight		
	21	<u>22. Test for Quenched & Tempered bars.</u> The cross section is smoothened to a fine polished state by grinder and emery paper. The smooth end of sample is then pickled in nitrol solution(5 to 10% nitric acid with balance ethyl alcohol) The result should show a uniform tempered martensite periphery with a softer core of good Quenched & Tempered bars.		
		<u>WATER</u>		
	154	23. pH Value		
	154	24. Chloride Content		
	154	25. Sulphate content		
	154	26. Organic and Inorganic Solids content		

Signature of tenderer

Note:

The deployment of Site Engineers shall be increased/decreased depending upon the number of works in progress as directed by COC. The average requirement of Site Engineers per month has been fixed as Eight, this eight numbers may decrease/increase depending upon the number of work sites for effective supervision. The total requirement of Site Engineers has been worked out as $8 \times 24 = 192$. This Quantity variation will be $\pm 15\%$

The rate is inclusive of all applicable taxes, service tax, incidental charges, and all sundries for a period of 24 Months from the date of Commencement.

The Tenderer should quote the rate in both words and in figures. In case of any dispute in the prices quoted, the lowest will be considered. The tenderer is required to quote up to two decimal points only. If there is any correction in the rate, it should be attested by the contractor and also by the officer concerned at the time of opening the tender. No tender will be considered unless the rate is furnished in figures and words.

Qty.	Description	Rate (Rs. In words & figures)	Amount(Rs.P.)
7.	<p><u>The following test to be conducted in the Mobile laboratory and to furnish test reports in triplicate.</u></p> <p>Rates for conducting lab tests with the use of Mobile Laboratory and furnishing the tests reports in triplicate in the appropriate format. (All the tests carried out in the Mobile lab should be conducted by the Lab Analyst. The rate quoted includes the wages of Lab Analyst, supporting staff, Mobile lab equipments, Hiring of vehicle with fuel and Driver, documentation etc., complete.)</p>		
	Sand		
64	27.Sieve Analysis (Grading & Fineness Modulus)		
64	28.Specific Gravity		
	Coarse Aggregate		
64	29.Sieve Analysis (Grading)		
64	30.Specific Gravity		
	Concrete		
15	31.Slump Test of concrete		

Signature of tenderer

Note:

The rate is inclusive of taxes, service tax, incidental charges, ground transportation, lab equipment, wages of Lab analyst, documentation charges, communication charges and all sundries for a period of 26 Months from the date of Commencement.

The Tenderer should quote the rate in both words and in figures. In case of any dispute in the prices quoted, the lowest will be considered. The tenderer is required to quote up to two decimal points only. If there is any correction in the rate, it should be attested by the contractor and also by the officer concerned at the time of opening the tender. . No tender will be considered unless the rate is furnished in figures and words.

Signature of tenderer

SECTION 5

TERMS OF REFERENCE

Signature of tenderer

SECTION 5. TERMS OF REFERENCE

1. *BACKGROUND*
2. *CONSULTANCY OBJECTIVE*
3. *SCOPE OF WORK*
4. *CLIENTS SUPPORTS*
5. *LIST OF KEY PERSONNEL WHOSE INDIVIDUAL CVs AND EXPERIENCE WOULD BE EVALUATED*
6. *CANAL MAP*
7. *ANNEXURE-A: LIST OF ROADS*
8. *ANNEXURE-B(I&II): MIN. REQUIRED EQUIPMENTS IN GROUND AND MOBILE LABORATORY*
9. *ANNEXURE-C(I,II& III): MIN. TESTS TO BE CONDUCTED IN GROUND AND MOBILE LABORATORY AND IS CODES*

Signature of tenderer

Tender for providing Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drains and Canals under JNNURM Scheme **PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA** in Chennai city.

TERMS OF REFERENCE

Technical Examination of Works

1. Background:

The Corporation of Chennai (COC) is implementing the flood alleviation process by constructing Storm Water Drains in the city. This includes the purging of silt and construction of RCC walls for 15 Canals flowing within the limits of COC. These works are taken up with the assistance provided by the Government of India, under JNNURM. The office estimate of the Proposed works **PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA** in Chennai city would be approximately as follows.

Sl.No.	Package Deatils	Approximate Amount Rs. in Crores.	EMD Amount in Rs.
1.	PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA	Rs.1.17	117000

COC has completed the detailed investigation, of Chennai Metropolitan Area for flood alleviation & mitigation and preparation of Detailed Project Report for Micro Drains & waterways of Chennai Corporation in Chennai Corporation limits and Macro Drainages & Waterways etc., of PWD with in Chennai Metropolitan area inclusive of project appraisal, approval etc., from JNNURM and other Funding agencies.

This project covers 228 no. of roads at various locations it includes Construction of different sizes of drains. These construction works are to be carried out in busy roads and narrow lanes, which involves traffic management and permissions. Since all the works are below the ground level, there is every possibilities to hamper the rate of progress of work due to the existence of underground service lines and pipes.

The key personnel requirement given in Clause 5 Terms of Reference are for whole contract period. The QAQC tenderer has to increase /decrease their personals depending on the nature and quantum of construction activities and volume of works. However the minimum for all the key personals in the whole contract period shall not be lesser than as specified in the tender document.

In order to ensure good quality of construction and improving efficiency, it is proposed to provide third party quality assurance through an independent agency there by assisting the Corporation of Chennai in ensuring good quality of construction for the works being taken up by Corporation of Chennai.

Signature of tenderer

2..Consultancy Objective:

The proposed consultancy is expected to assist the Corporation of Chennai in ensuring effective quality management in the physical works to be undertaken as part of the project. In particular, the proposed Consultancy Services would:

- (i) Assess the current quality management system and develop techniques for improved quality management (e.g. manuals, OK cards, formats as per technical and environmental specifications) of physical investments under the JNNURM Project
- (ii) undertake quality management checking and reporting (including development of an online quality information system) for these investments for a period of three years.

2.1 Project details (Package V)

1. No. of works -228Nos.
2. Size of Drains- 0.6x0.75m,0.9x0.9m,1.2x1.2m,1.5x1.5m, 2x 2m, 2.5 x 2.5m, 3 x 3m
3. No. of Roads – 228Nos

2.2 The objective of the project is

1. Construction Supervision and Monitoring during the progress of works
2. Carry out pre-Construction Quality Assurance checks for all materials as per the Relevant codes.
3. Carry out Quality Assurance and quality control checks during the progress of works as per the relevant codes and Frequencies.
4. Quantity certification and Quality Assurance Certification for each work for releasing intermediate payments and submit to the COC.)

2.3. The job of QAQC tenderer is

The role of QAQC tenderer shall be conducting detailed checks of activities of construction from the starting stage to the finishing stage. This would involve technical supervision, monitoring and quality assurance shall be combination of field visits, collection of samples, testing of materials, office work, comments on construction materials, checking of test results, supervising all the construction activities, taking the measurements and checking with design and ensuring that the work has been executed according to the drawings, designs and specifications and in line, level and as per approved drawings. The QAQC tenderer would be reporting to the concerned officers through weekly report and suggesting interaction with various authorities as and when required. All the tests and quality assurance inspections would be conducted as per BIS. The Q.A. reports should in technical, systematic informative and qualitative manner. The team would be working in COC limits for conducting Q.C. tests. Field Staff with required mobile testing equipment for on site inspections including random checks of the works. The QAQC tenderer shall review the degree of quality control exercise during the construction through various tests. The purpose of quality control and Assurance exercise is to ensure that the work has been executed according to the drawings, designs and specifications and in line, level and as per approved drawings and is intended mainly to prevent defective work, ensure quality of processes involved and of the work at its different stages of construction for ensuring quality of the final product.

2.4. A quality process must adhere to three basic principles.

- Prevent errors from being introduced. At least as much effort should be placed in preventing errors as in finding the errors later.
- Ensure that errors are detected and corrected as early as possible. Therefore, Quality controls, which include checking and back-checking procedures, must be implemented during all phases of the work.

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- Eliminate the causes of the errors as well as the errors themselves. By removing the cause, the quality process has been improved.

3.Scope of Work:

The period of the proposed assignment shall be generally 30 Months from the date of the effectiveness of the contract, but the scope of work covers up to actual date of completion of the project.

Type of Works involved:

Construction of Storm Water Drain , Desilting , Deweeding , Concreting , Construction of Retaining wall , providing chain link fencing to Canals etc.,

The quality management would need to be done at various stages – pre-construction, during construction and post-construction, as described below:

Pre construction stage:

- All the materials involved in the works have to be tested as per BIS norms.

During construction stage:

- Supervision at site to maintain quality checks through a system for hard and soft copies
- Monitoring progress of the quality of construction and material
- Keeping proper records of quality through reports, Ok Card system, written records and video/photos

After construction stage:

- The consultant shall furnish necessary test certificates and compliance certificate on the completion of works which may be attached to the completion report.

3.1 Construction work will be carried out in Day & night. The QAQC tenderer's staff shall be make available whenever works are in progress and they should supervise the works and conduct required tests.

3.2 Method of Inspection:

The QAQC tenderer or his representative shall daily inspect the work site and should check all the on going works as follows.

3.2.1 Materials like Cement, Sand, Aggregate and Steel should be checked at advance Stage.

- a. Cement to be checked for consistency and compressive strength for every lot.
- b. Steel to be checked for Tensile Strength and Section weight. Manufacturer's certificate, product name imposed at equal intervals to be verified. Check for re-rolled rod such as filing and cutting of rods also to be done. The test to be conducted for every lot.

3.2.2 (i) Check for width and depth of excavation as per approved drawing before concreting and should be recorded in the site order book.

(ii) Check for excavated surface level to ensure required slope towards disposal point.

3.2.3 Before laying of PCC, materials such as Cement, Sand , Aggregate and Water quality has to be checked.

Testing frequency: whenever new materials arrived.

(i) Check for thickness of Plain Cement Concrete at every 15M.

(ii) Cube test for mix at every day of concreting.

(iii) After laying PCC, levels has to be taken and checked to the approved drawing.

(iv) The levels should be recorded and kept at site office.

(v)Recorded the measurements .

3.2.4 Pre check up for laying concrete for RCC works.

Centering and fabrication of Steel:

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- (i) Centering works for side walls and top slab to be checked whether supports and bracings are intact and sound enough to withstand the laying of concrete.
- (ii) Check for Steel reinforcement as per bar bending schedule and design specification.
- (iii) Check for Length and spacing of steel rods.
- (iv) Check the fabrication work whether it is properly tied up and laid in position.
- (v) Pre measurements for steel to be recorded.
- (vi) Check for provision of PVC pipe at regular intervals.

Concreting:

- (i) Take samples for conducting cube test for all concreting works.
- (ii) Check for proper compaction and with vibrator.
- (iii) Check for required thickness of RCC walls and slab at every 15M intervals.
- (iv) Check for Providing Inspection Chamber frame with reference to adjoining road level.
- (v) Check for curing of all concrete works and record measurement.

3.2.5 Desilting of Canals:

- (i) To take pre levels before the commencement of Desilting.
- (ii) To take post levels after the completion of Desilting operation and record the quantity of silt removal.
- (iii) The levels shall be taken at 15M intervals in longitudinal direction and at the cross section minimum three locations or maximum five meters intervals.

3.2.4 Stability of soil to be checked.

3.2.5 Check the Wet Mix Macadam thickness and proper compaction by vibro max rolling.

3.2.6 Check for concreting work as specified in the relevant codes.

3.2.7 To check fixing of Fencing Angle at every 2M while laying Canal retaining wall.

3.2.8 To check all miscellaneous works.

3.3 Every day Inspection report should be recorded in the site order book and suggestion to improve the quality of work. It will be counter signed by the AE/JE of site in charge. QAQC representative should send test reports in the formats given in Annexure –VI daily. The QAQC tenderer shall collect samples and materials at the work site of this project in presence of Corporation of Chennai Engineer authorized by S.E.(SWDD) and representative of the Contractor of the work to perform all the quality tests at the frequencies mentioned in BIS norms. These tests shall be supervised/conducted by QAQC tenderer at the laboratory setup in the site office by the Construction agency and these test results should be certified by the QAQC tender.

The test conducted by Key Personnel in the Construction agency's laboratory for which no payment will be entitled.

3.4 The Consultant should maintain at least one mobile and One ground laboratory facilities as per the equipment list provided in the Annexure B-I & B-II of TOR. The instruments and equipments have a Valid calibration certificates. The laboratory to be set up with in Chennai Corporation limit.

3.5 Use the sampling/testing protocols/procedures (including use of modern testing equipment and non-destructive tests) for quality management of civil works under JNNURM using well-structured Sampling, the consultant shall conduct at least 10 % of the specified quality control tests as per norms and the

Signature of tenderer

frequency mentioned in BIS independently for respective items of works in each package in the Consultant's own lab / tied up laboratory.

3.6 These tests will be in addition to the periodic tests that will be carried out by the construction agency.

3.7 QAQC Tenderer should assure that the works are constructed with good

construction materials and as per desired standard of good quality construction for the works being taken up under JNNURM Project in Corporation of Chennai.

3.8 The QAQC tenderer or his representative shall supervise the construction work during the work under progress daily with required mobile testing equipment for site inspections (as per Annexure B-II) for on site inspections to achieve the stipulated standards of quality, Specification, measurements and quantity as per design in the project. They have to conduct tests like Bulkage of Sand, sieve analysis for sand and Aggregate, slump cone test for Concreting etc., with the equipments available in mobile lab. The QA/QC has to ensure Conformity to drawings, technical specifications, and construction contract stipulations on quality as per TamilNadu Building Practice Code and BIS codes for each item of work.

3.9 If there is any discrepancy / error / omission, the QAQC tenderer shall point out it with suggestions and remedial measures within codal provision and will report to the Assistant Executive Engineer / Executive Engineer concerned of the work daily with his suggestions and remedial measures if any.

3.10 The QAQC tenderer shall timely carry out independent checking / testing of materials after collecting sample in the presence of COC Engineers authorized by S.E/SWDD and contractors of the work to ensure that specified quality is achieved. The QAQC tenderer shall faithfully conduct all tests/checks and sampling required to be executed by the contractor as per BIS/ MORTH Specifications.

3.11 The QAQC tenderer shall visit each site during the work under progress to satisfy the prescribed number of tests as per the quantities of work. The type and number of test required to be carried out for materials / concrete etc shall be as per the prescribed norms of BIS

3.12 The QAQC tenderer shall submit Weekly reports (Four copies) of their observations for follow-up, highlighting critical actions that need to be addressed immediately. The short coming / deviations observed shall be notified immediately to the Executive Engineer concerned of the department for necessary corrective actions.

3.13 The QAQC tenderer team shall have considerable strength of expertise and established track record of providing technical audit and Quality Assurance services .

3.14 The QAQC tenderer shall develop a system of classification and categorizing of Technical audit points and closely monitor the compliance on a regular basis and the QAQC tenderer shall interact with COC for compliance of Technical audit points.

3.15 Detailed Weekly reports will include physical progress, no. of test carried out along with their results as well as summary of observations made during the Week. It will list the points in respect of all the construction sites visited and rectification required. It shall also highlight the weaknesses observed, recommended remedial measures and degree of compliance of the audit points raised in earlier visits. The QAQC tenderer shall prepare a separate report on the progress the work.

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- 3.16 The QAQC tenderer shall not issue any instruction directly to the field Engineers / Civil Contractors if in their opinion it is found necessary to change specifications or modify design. The same shall be brought to the notice of the concerned Executive Engineer of COC.
- 3.17 QAQC tenderer shall assess the Contractor capacity and on-site quality management – equipment, plant, machinery, installations, adequacy of contractor quality management and testing, personnel on-site – as well as labour welfare, safety of works, personnel and general public, and housekeeping on-site
- 3.18 Verification of compliance in addressing observations in earlier visits. The Consultant may also be required to perform repeat tests, as required by the Executive Engineer of COC. These repeat tests or measurements may be conducted in the presence of Executive Engineer of COC or his representatives on his request. These repeat tests should be performed in Construction Agency's laboratory.
- 3.19 Fill reporting formats for quality management. Also take Digital photographs in CD of structures and related issues to provide well-catalogued visual evidence of issues on-site.
- 3.20 Provide credible, regular reports on status of quality management under JNNURM and suggested remedial measures to improve quality of civil works under JNNURM and issues for COC attention.
- 3.21 After the work is completed, due verification of the all points covered in the Check list of the respective activity QAQC tenderer shall issue Completion certificate to the Superintending Engineer as per the Format approved by the Executive Engineer.
- 3.22 The QAQC tenderer is responsible for the quality of material used by the Civil contractor, dimensions of the executed works, Spacing and diameter of rods, Levels as per design and authenticity of the test results.
- 3.23 The QAQC tenderer shall also test the random sample at its own laboratory if requested by COC during the inspection of Higher Authorities. In addition to the clause 3.3, 3.4 and 3.5 of Scope of work.

4.CLIENT SUPPORT:

Chief Engineer / Superintending Engineer and the Executive Engineer of COC shall be the counterpart for the consulting team in tasks related to Construction of Storm Water Drains and Canals under JNNURM Scheme **PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA** in Chennai city.

The engineering and other staff of the COC will work closely with the QAQC Tenderer's team in a true spirit. This will facilitate technology transfer to the COC.

The COC will provide the details and maps of all the proposed construction works of **PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA** in Chennai city. The COC will also make available details of canals and drains, structures on the conveyance system, size etc., and details of other works. The COC will provide any other data as available and as found necessary by the QAQC Tenderers or extend help in its procurement from other government sources to enable the QAQC Tenderers to perform the tasks. Collection of data and information from COC shall be the sole responsibility of the QAQC Tenderer.

The COC will make available the programme for physical works to be executed during the following month.

The COC will make available copies of the plans, estimates and detailed engineering designs of **PACKAGE - V** and contract agreement for inspection.

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The COC will ensure that during the period of consultancy, the QAQC Tenderer shall have the access to the field and **Construction Agency's laboratory** and to all records maintained at the work sites connected with quality control test. Any other facilities mutually agreed upon by QAQC Tenderer and COC.

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5. List of Key Professionals whose CVs (Curriculum Vitae) and Experience would be evaluated is as follows:

Sl. No	Key Personnel	Number of person	Job Description	Experience in relevant field
	Team leader (Civil Engineer) <u>Minimum Qualification</u> Post Graduate in Engineering – 9 years (or) Graduate in Civil Engineering – 12 years	1	Lead the consultancy team, Develop Quality control and Quality Assurance system based on Specifications and other Assignment as instructed by Executive Engineer. Submitting the weekly / fortnightly/ monthly reports to Superintending Engineer/SWDD and attending the meeting conveyed Corporation of Chennai	5 years demonstrated experience of Modern construction technique, familiarity with similar nature of works related construction works and experience of Technical checking and quality control of works, assignment
	Senior quality Engineer (Civil Engineer) <u>Minimum Qualification</u> Master in Engineering / Construction – 5 years (or) Graduate in Civil Engineering – 7 years	1	Act as Coordinator technical and Resource person for the entire Assignment of Quality Control and Quality Assurance/ Quality Audit and other tasks as per terms of reference and other assignment instructed by Executive Engineer and also submitting testing report to Executive Engineer.	3 years demonstrated experience in the Project Management of Modern construction technique familiarity with similar nature of works related with construction works and experience of quality control or works, assignment
	Site Engineer <u>Minimum Qualification</u> Graduate in Civil Engineering – 3 years (or) Diploma in Civil Engineering – 5years	8	Contact, Engineers for construction agencies collective drawings, estimates, agreements, visit the work site collect samples where ever required for test and send to laboratory. Taking Pre - level and final level measurement for all the construction work in Storm Water Drain & Canal	2 Years experience in executing Civil Engineering Construction works.
	Subordinate Staff			
	Lab Analyst Graduate in Civil Engineering 3 years	1	To carry out tests involved in the construction activities. The tests conducted In the Mobile test laboratory should be carried out by Lab analyst	2 years experience in relevant field
	Data Entry Operator	1	Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing, and submitting the reports in MS Power Point Presentation.	Any Graduate with Computer knowledge in MS Office.
	Total	12		

Note:- The average requirement of Site engineers per month has been fixed as eight, this eight numbers may decrease/increase depending upon number of on going works to have a effective supervision during that month. The total requirement of Site engineers for this project have been worked out as $8 \times 24 = 192$ manmonths. However this quantity variation will be $\pm 15\%$

Nearest work spot will be grouped together as assigned by Corporation of Chennai, to be supervised by site Engineer.

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The key personnel shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave. Any taking of leave by personnel shall be subject to the prior approval by the consultant who shall ensure that absence for leave purpose will not delay the progress and adequate supervision of the services.

The space for testing Lab will be owned/ rented by QAQC tenderer within the Chennai Corporation limit. The QAQC Tenderer firm shall depute some Senior Engineer of Management level to visit each Scheme where his team is working at least once in a month and discuss the progress with the Superintending Engineer/SWDD. The details of such discussions shall be kept on record.

Establishment of Offices:- QAQC Tenderer will establish a full fledged office at Chennai, all infrastructure and office establishment etc., where the Team leader along with his subordinate staff will be stationed.

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6. ANNEXURE A
List of Roads

NAME OF THE WATER SHED: ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA

SI No	Zone	Dn. No	Name of the Water Shed	Name of the Road
1	I	4	Royapuram water shed	Veeraragavan Road
2	I	4	Royapuram water shed	North terminal road
3	II	17	Royapuram water shed	Shaik Maistry Street
4	II	17	Royapuram water shed	G.M.Pettah Sallai
5	II	25	Royapuram water shed	Old Jail Road
6	I	4	Royapuram water shed	Thiruvotriur High Road
7	I	4	Royapuram water shed	AE Koil Street
8	I	6	Royapuram water shed	Thiruvetriur High Road
9	I	7	Royapuram water shed	Seniamman Koil street
10	I	7	Royapuram water shed	Ellaya Street
11	I	7	Royapuram water shed	Thandavarayan Street
12	I	7	Royapuram water shed	Thiruvetriur High Road
13	I	8	Royapuram water shed	Ellaya Street
14	I	9	Royapuram water shed	Ramanujam street
15	I	13	Royapuram water shed	Dr.V.R.Road
16	I	3	Royapuram water shed	Ellaya Street
17	I	3	Royapuram water shed	Vaidhyanathan Street East
18	I	5	Royapuram water shed	A.A.Scheme Road
19	I	5	Royapuram water shed	VOC Nagar Market road
20	II	18	Royapuram water shed	West Mada Street
21	II	17	Royapuram water shed	St.Xevior Street
22	II	21	Royapuram water shed	Cementry Road
23	II	21	Royapuram water shed	East Cementry Road
24	II	21	Royapuram water shed	Thulukkanam Street
25	II	21	Royapuram water shed	Kalingarayan Street
26	II	16	Royapuram water shed	Pan Rajarathinam Salai
27	II	27	Royapuram water shed	Rajaji Salai
28	II	29	Royapuram water shed	Subramaniam street & Nattu Pillayar Koil Street
29	II	19	Royapuram water shed	Cemetry Road
30	II	24	Royapuram water shed	Barracks Street
31	II	24& 25	Royapuram water shed	St. Xavier Street
32	II	29	Royapuram water shed	Amman Koil street
33	II	14	Royapuram water shed	SN Street
34	II	30	Royapuram water shed	South market Lane
35	II	25	Royapuram water shed	Amman Koil street
36	II	30	Royapuram water shed	Katha Muthaippan Street
37	II	24	Royapuram water shed	Seven Wells street
38	II	17	Royapuram water shed	SN Street
39	II	25	Royapuram water shed	Prakasam Salai
40	II	18	Royapuram water shed	Venkatesan Street
41	II	17	Royapuram water shed	East Kalmandapam Road
42	II	30	Royapuram water shed	Anna (P) Street
43	II	17	Royapuram water shed	Flag Staff Street
44	I	5	Royapuram water shed	Ellaya Street
45	I	5	Royapuram water shed	Kamaraj Salai
46	I	7	Royapuram water shed	Appasamy garden Main Street
47	I	8	Royapuram water shed	Mayor Basudev Street

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48	I	8	Royapuram water shed	Veerakutty street
49	I	5	Royapuram water shed	Thiruvalluvar Nagar 1st Main Road
50	II	16	Royapuram water shed	Somu 4th street
51	II	16	Royapuram water shed	Somu 3rd lane
52	II	21	Royapuram water shed	West Cemetery Road
53	II	24	Royapuram water shed	Gregore Street
54	II	16	Royapuram water shed	Bashyam Street
55	II	16	Royapuram water shed	SG 7th street
56	I	3	North Buckingham Canal	Ennore High Road
57	I	10	North Buckingham Canal	Manali Salai
58	I	13	North Buckingham Canal	Kannan Street
59	II	31	North Buckingham Canal	Basin Bridge Road
60	III	47	North Buckingham Canal	Raja Muthiah Salai
61	III	47	North Buckingham Canal	Railway parking Portion
62	III	47	North Buckingham Canal	Kannappar Thidal
63	III	47	North Buckingham Canal	Choolai High Road
64	I	7	North Buckingham Canal	Corporation Colony I Street
65	I	9	North Buckingham Canal	venkatakrishnan Street
66	I	9	North Buckingham Canal	Mint Subbarayulu Street
67	I	10	North Buckingham Canal	Thiruvalluvar Nagar IV Street
68	I	10	North Buckingham Canal	Devi Karumari Ammman Nagar I Street
69	I	10	North Buckingham Canal	Kannagi Nagar 5th street
70	I	10	North Buckingham Canal	Navalar Street
71	I	10	North Buckingham Canal	Pitty Munusamy Street
72	I	10	North Buckingham Canal	Devi Karumari Ammman Nagar I Main Road
73	I	11	North Buckingham Canal	Sathyamurthy street
74	I	11	North Buckingham Canal	Kathivakkam High Road
75	I	11	North Buckingham Canal	Bharathi Nagar Main Road
76	I	10	North Buckingham Canal	Kathivakkam High Road
77	I	3	North Buckingham Canal	Ennore High Road
78	III	45	North Buckingham Canal	Demellows Road
79	III	47	North Buckingham Canal	E.V.K.Sampath Salai
80	III	48	North Buckingham Canal	Adiyappa Street
81	III	48	North Buckingham Canal	Anna(P) Street
82	I	3	North Buckingham Canal	Janabath street
83	I	3	North Buckingham Canal	Market street
84	I	3	North Buckingham Canal	Sundaram(P) Nagar IV Main Road
85	I	3	North Buckingham Canal	Nethaji Nagar Mian Road
86	I	3	North Buckingham Canal	Sastri Nagar Main Road
87	VI	80	Center Buckingham Canal	Ellis Road
88	VI	84	Center Buckingham Canal	Kuppa Muthu street
89	VI	95	Center Buckingham Canal	M.S.Salai(Oliver Road)
90	VI	95	Center Buckingham Canal	TTK Road, RK Salai, Sir PS Sivasamy Salai
91	VI	96	Center Buckingham Canal	Sir PS Sivasamy Salai and Balakrishnan Street
92	VI	88	Center Buckingham Canal	Dr.Besant Road (Both Sides)
93	VII	110 & 112	Center Buckingham Canal	Avvai Shanmugam Salai
94	X	142	Center Buckingham Canal	St. Marrys Road
95	X	145	Center Buckingham Canal	Dr.Natesan Road
96	X	150	Center Buckingham Canal	PSK Salai
97	VI	96	Center Buckingham Canal	VM Street
98	VI	87	Center Buckingham Canal	Devaraj street
99	VI	96	Center Buckingham Canal	Dr. Radhankrishnan Salai
100	VI	96	Center Buckingham Canal	Dr. Radhankrishnan Salai Both sides
101	VI	95	Center Buckingham Canal	Avvai Shanmugam Salai
102	VI	89	Center Buckingham Canal	Triplicane high road
103	VI	83	Center Buckingham Canal	G.P. Road
104	VI	83	Center Buckingham Canal	G.P. Road
105	VI	86	Center Buckingham Canal	Bells road
106	VI	85	Center Buckingham Canal	Triplicane high road

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107	VI	87	Center Buckingham Canal	Bharathi salai
108	VI	93	Center Buckingham Canal	Masilamani street
109	VI	83	Center Buckingham Canal	Chella pillaiyar koil street
110	VI	94	Center Buckingham Canal	Dr. Natesan Salai
111	VI	93	Center Buckingham Canal	Nallanna street
112	VI	93	Center Buckingham Canal	Venkatachalam street
113	VI	87	Center Buckingham Canal	Mallan Ponnappan street
114	VI	84	Center Buckingham Canal	Triplicane high road
115	VI	80	Center Buckingham Canal	Wallah Road
116	VII	100	Center Buckingham Canal	Asthabujam Road
117	VII	108	Center Buckingham Canal	Peters Road(South Side)
118	VII	111	Center Buckingham Canal	West Cott Road
119	VII	112	Center Buckingham Canal	Srinivasapuram I & II Street
120	VII	113	Center Buckingham Canal	RK Salai(Both Sides)
121	VII	113	Center Buckingham Canal	Kasturi Rangan Road
122	X	142	Center Buckingham Canal	Prithvi Avenue
123	X	142	Center Buckingham Canal	Beemanna Garden Street
124	X	142	Center Buckingham Canal	Bava Road
125	X	142	Center Buckingham Canal	Abiramapuram 4th street(East)
126	X	142	Center Buckingham Canal	Abiramapuram 4th street(West)
127	X	142	Center Buckingham Canal	Janaki avenue
128	X	142	Center Buckingham Canal	Link Avenue
129	X	142	Center Buckingham Canal	RA Puram 4th Main Road
130	X	142	Center Buckingham Canal	Asoka Road
131	X	142	Center Buckingham Canal	CP Ramasamy Road
132	X	142	Center Buckingham Canal	Abiramapuram III Street
133	X	142	Center Buckingham Canal	Visalakshi Thootam
134	X	142	Center Buckingham Canal	RA Puram III Cross street
135	X	142	Center Buckingham Canal	RA Puram II Main Road
136	X	142	Center Buckingham Canal	RA Puram I Main Road
137	X	142	Center Buckingham Canal	RA Puram I Cross street,VII Main Road
138	X	143	Center Buckingham Canal	Pallakkumaniyam Lane
139	X	143	Center Buckingham Canal	East Abiramapuram III street
140	X	143	Center Buckingham Canal	Royapettah High Road
141	X	143	Center Buckingham Canal	St Marys Road
142	X	144	Center Buckingham Canal	Loganathan Colony
143	X	144	Center Buckingham Canal	Nattu Subbarayan Street,MK Koil street
144	X	145	Center Buckingham Canal	Karaneswarar Pagoda Street, Egambaram street
145	X	145	Center Buckingham Canal	Dr.Radhakrishnan Salai
146	X	145	Center Buckingham Canal	PV Koil street, Egambaram strret
147	X	147	Center Buckingham Canal	RK Mutt Road
148	X	143	Center Buckingham Canal	VC garden 1st street
149	VI	84	Center Buckingham Canal	Subathral street
150	VI	89	Center Buckingham Canal	Banthala Venugopal street
151	VI	89	Center Buckingham Canal	South Mada street
152	VI	89	Center Buckingham Canal	Nallathambi street
153	VI	84	Center Buckingham Canal	Mayor Chittibabu street
154	VII	112	Center Buckingham Canal	Ponnusamy street
155	VII	112	Center Buckingham Canal	Ammaiappan lane
156	X	149	Center Buckingham Canal	Thireuvenkadam street
157	IX	138	South Buckingham Canal	Lake View Road
158	IX	141	South Buckingham Canal	CPT Road
159	X	151	South Buckingham Canal	Sardar Patel road
160	X	151	South Buckingham Canal	Indra Nagar II Avneue
161	X	152	South Buckingham Canal	MG Road
162	X	154	South Buckingham Canal	Pammal Nalla Thambi Street
163	X	154	South Buckingham Canal	V.V.Koil street
164	X	154	South Buckingham Canal	L.B.Road, west Avenue
165	X	154	South Buckingham Canal	Providing, resectioning Concrete Lining and Providing fencing for IIT Canal
166	X	154	South Buckingham Canal	Tharamani 100 feet Road at SRP Tools (Road Crossing)
167	X	155	South Buckingham Canal	ECR,Thiruvalluavar Salai
168	X	155	South Buckingham Canal	ECR,Thiruvalluavar Salai

Signature of tenderer

169	IX	138	South Buckingham Canal	Sardar Patel Road
170	X	150	South Buckingham Canal	Rajiv Gandhi Salai
171	X	151	South Buckingham Canal	I Lane, Indira Nagar
172	X	151	South Buckingham Canal	Jeevarthinam Nagar II street
173	X	151	South Buckingham Canal	Jeevarthinam Nagar I street
174	X	151	South Buckingham Canal	Kamaraj Avenue II street
175	X	151	South Buckingham Canal	Gandhi Nagar I Main Road
176	X	151	South Buckingham Canal	KB Nagar VI Main Road
177	X	151	South Buckingham Canal	KB Nagar I Main Road
178	X	152	South Buckingham Canal	Sastri Nagar 8th Cross street
179	X	152	South Buckingham Canal	Besant Nagar I Avenue
180	X	152	South Buckingham Canal	Sastri Nagar I Main Road
181	X	152	South Buckingham Canal	Sastri Nagar I Avenue(South)
182	X	152	South Buckingham Canal	Sastri t Nagar I Avenue
183	X	152	South Buckingham Canal	Besant Nagar I Main Road
184	X	154	South Buckingham Canal	Kalki Krishnamurthy Salai
185	X	154	South Buckingham Canal	Kalki Krishnamurthy Salai
186	X	154	South Buckingham Canal	20th cross street, Indira nagar
187	X	154	South Buckingham Canal	Kalki Krishnamurthy salai
188	X	154	South Buckingham Canal	West Avenue, Kamaraj nagar
189	X	154	South Buckingham Canal	2nd main road, Kamaraj nagar
190	X	154	South Buckingham Canal	29th cross street, Indira nagar
191	X	154	South Buckingham Canal	28th cross street, Indira nagar
192	X	154	South Buckingham Canal	28th cross street, Indira nagar
193	X	154	South Buckingham Canal	17th Cross street, Indira Nagar
194	X	154	South Buckingham Canal	Indira Nagar III Avenue
195	X	154	South Buckingham Canal	Kalki Krishnamurthy Salai
196	X	154	South Buckingham Canal	CSIR Road
197	X	154	South Buckingham Canal	West Avenue,Kamrajnagar
198	X	154	South Buckingham Canal	Krishnamoorthy Salai
199	X	155	South Buckingham Canal	7th Avenue, Besant nagar
200	X	155	South Buckingham Canal	Avvai nagar main road
201	X	155	South Buckingham Canal	2nd and 3rd East street, Kamaraj nagar
202	X	155	South Buckingham Canal	Dharmambal street
203	X	155	South Buckingham Canal	Ganapathy street
204	X	155	South Buckingham Canal	Kalasethra main road
205	X	155	South Buckingham Canal	Radhakrishnan nagar main road
206	X	155	South Buckingham Canal	AIBEa nagar
207	X	155	South Buckingham Canal	Kalasethra main road
208	X	155	South Buckingham Canal	Avvai nagar main road
209	X	155	South Buckingham Canal	7th Avenue, Besant nagar (south side)
210	X	155	South Buckingham Canal	7th Avenue, Besant nagar (North side)
211	X	155	South Buckingham Canal	Valmiki street
212	X	155	South Buckingham Canal	Rajaji nagar main road
213	X	151	South Buckingham Canal	Dr.Muthulakshmi Salai
214	X	154	South Buckingham Canal	Kanagam Road Pillayar Koil street
215	X	151	South Buckingham Canal	Balamaram street
216	X	152	South Buckingham Canal	Sastri nagar 4th cross street
217	X	152	South Buckingham Canal	Sastri nagar 3rdcross street
218	X	152	South Buckingham Canal	Sastri nagar 5th cross street
219	X	152	South Buckingham Canal	Sastri nagar 1st cross street
220	X	152	South Buckingham Canal	Sastri nagar 9th cross street
221	X	152	South Buckingham Canal	Sastri nagar 13th cross street
222	X	152	South Buckingham Canal	Sastri nagar 11th cross street
223	X	155	South Buckingham Canal	Sri Ram nagar main road
224	X	155	South Buckingham Canal	Shanthi Avenue
225	X	155	South Buckingham Canal	Sivasundaram Avenue and 1st East street
226	X	155	South Buckingham Canal	RK nagar 1st cross street
227	X	155	South Buckingham Canal	RBI colony and Justice Ramanujam street
228	X	155	South Buckingham Canal	Pandian street

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8. Annexure – B(I)		
Minimum required equipments in a Ground Laboratory		
Sl. No.	Name of the equipment	Quantity
I.	<u>Building Materials including Cement, Mortar & Concrete</u>	
1	Electronic Balance to weigh upto 5kg with 0.1gm accuracy	1 No.
2	Vicat Apparatus with Consistency, IST and FST Needles	1 Set
3	Cube Mould with Base Plate - Size 70.6mm	9 Nos.
4	Tamping Rod - 15 cm long & 1 cm dia	1 No.
5	Straight Edge (Steel) - 0.5m long	2 Nos.
6	Vibrating Machine with timer (for Cement Mortar cube)	1 No.
7	Curing Tank (Covered)	1 No.
8	Compression Testing Machine - 100 T capacity	1 No.
9	Le Chatelier Apparatus	3 Sets
10	Water Bath	1 No.
11	Blaine Air Permeability Apparatus	1 No.
12	Platform Balance - 100kg Capacity	1 No.
13	Universal Testing Machine - 100 T Capacity	1 No.
14	Electrically operated Drying Oven (upto 225°C)	1 No.
15	Set of Std. Sieves 200mm Dia - sq. hole 4.75mm to 75 micron	1 Set
16	Sieve Shaker 200mm Dia	1 No.
17	Pycnometer (Small)	3 Nos.
18	Set of Std. Sieves 300mm Dia - sq. hole 80mm to 4.75mm	1 Set
19	Pycnometer (Large)	3 Nos.
20	Tamping Rod - 45 cm long & 1.5 cm dia	2 Nos.
21	Laboratory Concrete Mixer	1 No.
22	Slump Cone Apparatus	1 No.
23	Compaction Factor Apparatus	1 No.

Signature of tenderer

24	Cube Mould with Base Plate - Size 150mm	1 Set
25	Needle Vibrator	1 No.
26	Compression Testing Machine - 200 T capacity	2 Nos.
27	Concrete Core Drilling Machine	1 No.
28	Thermometer	1 No.
29	Glass bottle (350 ml)	2 Nos.
30	Other Accessories like Sample Trays (upto 600 x 600 x 75 mm), Measuring Jars (upto 1000 cc), etc.	12 Sets
31	pH Meter	1 No.
32	Electrical Conductivity Meter	1 No.
33	Colorimeter	1 No.
34	Glassware Items such as Burette (upto 50 ml), Conical Flask (upto 250 ml), Measuring jar (upto 1000 ml), etc.	6 Sets

II.	Soils	
1	Core Cutter Apparatus (for field density)	2 Sets
2	Sand Replacement Apparatus (for field density)	1 Set
3	Top pan Balance 1kg Capacity with 0.01 gm accuracy	1 No.
4	Hydrometer	1 No.
5	Electronic Digital Stop Watch	2 Nos.
6	Liquid Limit Device	1 No.
7	Cone Penetrometer	1 No.
8	Standard Proctor Compaction Apparatus	2 Sets
9	Rapid Moisture Meter	1 No.
10	Hot Plate	1 No.
11	Glass Plate (20cm square & 0.5cm thk)	2 Nos.
12	Other Accessories like Sample Trays (15 cm x 10 cm x 1 cm), etc.	12 Sets
13	Glassware Items such as Pipette (10 ml & 20 ml), Beaker (upto 500 ml), etc.	6 Sets
	<p><u>Note 1-</u> The above list of equipments is the minimum required for conducting routine and general Quality Control tests. In case any other tests are required to be done, the Department shall direct the Consultant to carry out the same from any recognized laboratory acceptable to the Department.</p>	

Signature of tenderer

<u>Annexure – B II</u>		
Minimum required equipments in a Mobile Laboratory		
Sl. No.	Name of the equipment	Quantity
I.	<u>Building Materials including Cement, Mortar & Concrete</u>	
1	Electronic Balance to weigh upto 5kg with 0.1gm accuracy	1 No.
2	Electrically operated Drying Oven (upto 225°C)	1 No.
3	Set of Std. Sieves 200mm Dia - sq. hole 4.75mm to 75 micron	1 Set
4	Sieve Shaker 200mm Dia	1 No.
5	Pycnometer (Small)	3 Nos.
6	Set of Std. Sieves 300mm Dia - sq. hole 80mm to 4.75mm	1 Set
7	Pycnometer (Large)	3 Nos.
8	Tamping Rod - 45 cm long & 1.5 cm dia	2 Nos.
9	Slump Cone Apparatus	1 Set
10	Cube Mould with Base Plate - Size 150mm	6 Nos.
11	Needle Vibrator	1 No.
12	Other Accessories like Sample Trays (upto 600 x 600 x 75 mm), etc.	6 Sets
13	Glass bottle (350 ml)	2 Nos.
II.	<u>Soils</u>	
1	Core Cutter Apparatus	2 Sets
2	Top pan Balance 1kg Capacity with 0.01 gm accuracy	1 No.
3	Rapid Moisture Meter	2 Nos.
4	Glass Plate (20cm square & 0.5cm thk)	2 Nos.
5	Other Accessories like Sample Trays (15 cm x 10 cm x 1 cm), etc.	6 Sets
6	Measuring jars (upto 1000 ml)	3 Sets

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<u>9. Annexure – C I</u>	
Important Tests to be conducted in a Ground Laboratory	
Sl. No.	Name of the test
I.	<u>Building Materials including Cement, Mortar & Concrete</u>
A	Cement
1	Consistency
2	Initial and Final Setting Time
3	Compressive Strength
4	Soundness
5	Fineness
B	Steel Reinforcement / Bar
1	Section Weight
2	Tensile Strength
3	Percentage of Elongation
4	Filing the surface of rods to recognize hard or soft
5	The cross- section is smoothened to a fine polished state by grinder and emery paper. The smooth end of sample is then pickled in nitrol solution(5 to 10 % nitric acid with balance ethyl alcohol). The result should show a uniform tempered martensite periphery with a softer core in case of good Quenched & Tempered rebars.
C	Brick
1	Water Absorption
2	Efflorescence
3	Compressive Strength
D	Sand
1	Sieve Analysis (Grading & Fineness Modulus)
2	Bulkage of moist sand
3	Specific Gravity
4	Water Absorption
5	Impurities in sand (silt, clay, etc.)
6	Organic impurities
E	Coarse Aggregate
1	Sieve Analysis (Grading)
2	Water Absorption
3	Specific Gravity

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4	Presence of any deleterious material in coarse aggregate
5	Crushing Strength
6	Impact Strength
7	Abrasive Strength
F	Concrete
1	Slump Test (Water Cement ratio)
2	Compressive Strength (7 days & 28 days)
3	Temperature of concrete
4	Water Cement ratio
G	Water
1	pH value
2	Chloride content As per
3	Sulphate content IS:456 - 2000
4	Organic and Inorganic Solids content
H	Stone (Revetment, etc.)
1	Water Absorption
J	Mortar Cube
1	Compressive Strength

II.	<u>Soils</u>
1	Moisture Content
2	Field Density test
3	Classification of Soils
4	Atterberg Limits
5	Specific Gravity
6	Standard Proctor

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	<u>Annexure – C II</u>
Important Tests to be conducted in a Mobile Laboratory	
Sl. No.	Name of the test
A	Sand
1	Sieve Analysis (Grading & Fineness Modulus)
2	Specific Gravity
B	Coarse Aggregate
1	Sieve Analysis (Grading)
2	Specific Gravity
C	Concrete
1	Slump Test of concrete
II.	<u>Soils</u>
1	Moisture Content
2	Field density test

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ANNEXURE C III**IS Codes for Materials**

The following are the some of the related IS codes for Quality Assurance Tests.

Item name	Name of the tests to be Conducted	IS. Code No according to which the tests are to be conducted
Soil test for Foundation	1. Bearing capacity of soil	IS: 2720 part 16 – 1963
Sand(Fine aggregate)	particle size & shape	IS: 2386 part I – 1963
	silt content	IS: 2386 part II – 1963
	Fineness Modulus	IS: 2386 part I – 1963
Coarse aggregate	1. Particle Size & shape a) Size and grading of aggregates b) Flakiness Index c) Elongation Index	IS: 2386 part I – 1963
	2. Aggregate Crushing Value	IS: 2386 part IV – 1963
	3. Aggregate Impact value	IS: 2386 part IV – 1963
	4. Aggregate Abrasion	IS: 2386 part IV – 1963
Cement Concrete	1. Compressive strength	IS: 516-1959
Cement	1. Consistency of standard cement Paste.	IS: 4031(part IV) 1988
	1. Setting time a) initial b) Final	IS: 269-1976
	2. Soundness by Le Chatelier Expansion	IS: 269-1976
	3. Compressive strength a) 33 grade	IS: 269-1976
	b) 43 grade	IS :8112-1989
	c) 53 grade	IS :12269-1987
	5. specific gravity of cement	
Steel	1. Elongation	IS :1786-2008
	2. Percent proof stress	IS :1786-2008
	3. Tensile Strength	IS :1786-2008

Signature of tenderer

SECTION 6
STANDARD FORMS OF CONTRACT AND
ANNEXURE

Signature of tenderer

1. FORM OF CONTRACT

QAQC Tenderers' Services

Signature of tenderer

CONTRACT FOR QAQC TENDERERS' SERVICES

Between

Commissioner,
Corporation of Chennai,
Ripon Building,
Chennai 3.
Tamilnadu

and

[Name of the QAQC Tenderer]

Dated: _____

Signature of tenderer

I. Form of Contract

(All notes should be deleted in final text)

This CONTRACT (hereinafter called the "Contract") is made the *[day]* day of the month of *[month]*, *[year]*, between, on the one hand, *[name of client]* (hereinafter called the "Client") and, on the other hand, *[name of QAQC Tenderer]* (hereinafter called the "QAQC Tenderer").

WHEREAS

- (a) the Client has requested the QAQC Tenderer to provide certain consulting services as defined in this Contract (hereinafter called the "Services");
- (b) the QAQC Tenderer, having represented to the Client that it has the required professional skills, and personnel and technical resources, has agreed to provide the Services on the terms and conditions set forth in this Contract;
- (c) The Client (Corporation of Chennai) has received, in the form of grant of 35 % from the Government of India and with 15% of grant from the Government of Tamil Nadu and the balance 50% from the Corporation of Chennai contribution intends to cover eligible payments under the contract for storm water drainage construction in Chennai Corporation and QAQC services cost will also be met in the above fund.

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:

Sl. No.	Documents	Pages
1.	Section 1 : Letter of Invitation	
2.	Section 2 : Instructions to QAQC Tenderers and Data Sheet	
3.	Section 3 : Technical Proposal – Standard Forms	
4.	Section 4: Financial Proposal – Standard Forms	
5.	Section 5 : Terms of Reference	
6.	Section 6 : I. Standard Forms of Contract II. General conditions of contract III. Special conditions of contract IV. Appendices and Annexure	

Signature of tenderer

SUMMARY OF COSTS

Description of work	
<p>1. Total Costs of Financial Proposal including all taxes and duties Providing Third party Quality Assurance and Quality Control Services for Construction of Storm Water Drain and Canals under JNNURM Scheme in PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA in Chennai city.] including collection of samples as per Codes, testing of samples, testing of materials, verification of levels, including testing of all materials as pre-construction, during construction and post construction stages.</p> <p>Advising COC for improving the quality and durability of the works and supporting COC in technical direction.</p> <p>QAQC tenderer should guide the contractors for proper implementation of the works and for improving the quality standards. The rate is inclusive of taxes, service tax, incidental charges, ground transportation, , lab equipment, documentation charges, communication charges and all sundries for a period of 24 Months from the date of Commencement.</p>	

2. The mutual rights and obligations of the COC and the QAQC Tenderer shall be as set forth in the Contract, in particular:
- (a) the QAQC Tenderers shall carry out the Services in accordance with the provisions of the Contract; and
 - (b) the Coc shall make payments to the QAQC Tenderers in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of the Corporation of Chennai,

Authorized Representative is

The Superintending Engineer,
Storm water drain department
Corporation of Chennai
Ripon buildings
Chennai-600003

Exe. Engineer /SWDD

Superintending Engineer/SWDD

Commissioner,
Corporation of Chennai

For and on behalf of *[name of QAQC Tenderer]*

[Authorized Representative]

[Note: If the QAQC Tenderer consists of more than one entity, all these entities should appear as signatories, e.g., in the following manner:]

For and on behalf of each of the Members of the QAQC Tenderer

[name of member]

Signature of tenderer

[Authorized Representative]

[name of member]

[Authorized Representative]

II. General Conditions of Contract

Signature of tenderer

II. GENERAL CONDITION OF CONTRACT
1. GENERAL PROVISIONS

1.1 Definitions	<p>Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:</p> <p>(a) "Applicable Law" means the laws and any other instruments having the force of law in the Government's country, as they may be issued and in force from time to time.</p> <p>(b) "QAQC Tenderer" means any private or public entity that will provide the Services to the COC under the Contract.</p> <p>(d) "Contract" means the Contract signed by the Parties and all the attached documents listed in its Clause 1, that is these General Conditions (GC), the Special Conditions (SC), and the Appendices.</p> <p>(e) "Contract Price" means the price to be paid for the performance of the Services, in accordance with Clause 6.2 of GC.</p> <p>(f) "Effective Date" means the date on which this Contract comes into force and effect pursuant to Clause GC 2.1.</p> <p>(g) "GC" means these General Conditions of Contract.</p> <p>(i) "Government" means the Tamil Nadu State Government.</p> <p>(j) "Local Currency" means the currency of India.</p> <p>(k) "Party" means the Client or the QAQC Tenderer, as the case may be, and "Parties" means both of them.</p> <p>(l) "SC" means the Special Conditions of Contract by which the GC may be amended or supplemented.</p> <p>(m) "Services" means the work to be performed by the QAQC Tenderer pursuant to this Contract, as described in Scope of work.</p> <p>(n) "In writing" means communicated in written form with proof of receipt.</p> <p>(o) "SWDD" means Storm Water Drain Department</p>
1.16 Law Governing Contract	This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.
1.18 Notices	
1.18.1	Any notice, request or consent required or permitted to be given or made pursuant to this Contract shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the QAQC Tenderer to whom the communication is addressed, or when sent to such QAQC Tenderer at the address specified in the SC.
1.18.2	A QAQC Tenderer may change its address for notice hereunder by giving the other Party notice in writing of such change to the address specified in the SC.
1.19 Location	The Services shall be performed at such locations as are specified in Annexure A hereto and, where the location of a particular task is not so specified, at such locations, within Corporation of Chennai city limit as the COC may approve.
1.20 Authorized Representatives	Any action required or permitted to be taken, and any document required or permitted to be executed under this Contract by the COC or the QAQC

Signature of tenderer

	Tenderer may be taken or executed by the officials specified in the SC.
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Signature of tenderer

	<p>c) If the QAQC Tenderer, in the judgment of the COC , has engaged in corrupt or fraudulent practices in competing for or in executing this contract.</p> <p>d) If as the result of Force Majeure , the QAQC Tenderer is unable to perform a material portion of the services for a period of not less than Sixty (60)Days.</p> <p>(e) If the COC in its sole discretion and for any reason whatsoever , decides to terminate this Contract.</p> <p>(f) If the QAQC Tenderer fails to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause GC 8 hereof.</p> <p>(g) If the QAQC Tenderer (or QAQC Consists of more than one entity , If of its members becomes) in solvent or bankrupt or enter into any agreement with their creditor for relief of dept or take advantage of any law for the benefit of debtors or go in to liquation or receivership whether compulsory or voluntary.</p> <p>(h) If the execution of civil work was suspended or terminated by COC</p> <p>(i) If the consultant submits to the client a false statement which as a material effect on the rights, obligations or interest of the client</p>
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3. OBLIGATIONS OF THE QAQC TENDERER

3.1 General	
3.1.1 Standard of Performance	The QAQC tenderer shall perform the Services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology equipment materials and methods. The QAQC tenderer shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the COC and shall at all times support and safeguard the legitimate interest in any dealings. The QAQC tenderer shall take all steps to take action in accordance with the Agreement of works contract between Corporation of Chennai and works contractor.

Signature of tenderer

3.2 Conflict of Interests	The Consultant shall hold the COC's interests paramount, without any consideration for future work, and strictly avoid conflict with other assignments or their own corporate interests.
3.2.1. QAQC Tenderers Not to Benefit from Commissions, Discounts, etc.	The remuneration of the QAQC tenderer shall constitute the QAQC tenderer sole remuneration in connection with this contract or the service, the QAQC tenderer shall not accept for their own benefit any trade commission discount or similar payment in connection with activities pursuant to this contract or to the service or in the discharge of their obligation hereunder and the QAQC tenderers shall use their best efforts to ensure that they shall not receive any such additional remuneration.
3.2.2 QAQC Tenderer and Affiliates Not to be Otherwise Interested in Project	The QAQC tenderer agree that, during the term of this contract, the QAQC tenderer and any entity affiliated with the QAQC tenderer, shall be disqualified if they provide any service or goods to the other party, which is not in the interest of COC.
3.2.3 Prohibition of Conflicting Activities	<p>Neither the QAQC tenderer shall engage either directly or indirectly or indicted in any of the following activities.</p> <p>a) During the term of this contract, any business or professional activities in the government's country which would conflict with the activities assigned to them under this contract or</p> <p>b) After the termination of this contract, such other activities as may be specified in the contract.</p>
3.3 Confidentiality	Except with the prior written consent of the COC, the QAQC Tenderer and the Personnel shall not at any time communicate to any person or entity any confidential information acquired in the course of the Services, nor shall the QAQC Tenderer and the Personnel make public the recommendations formulated in the course of, or as a result of, the Services. Violation of this condition, the QAQC tenderer services will be terminated.
3.4 Insurance to be Taken Out by the QAQC Tenderer	<p>The QAQC tenderer shall (i) take out & maintain at their own cost but on terms & conditions approved by the COC, insurance against the risks & for the coverage as shall be specified hereunder & (ii) at the COC's request shall provide evidence to the COC showing that such insurance has been taken out & maintained & that the current premiums therefore have been paid.</p> <p>Third party motor vehicle liability in respect of motor vehicles operated by the QAQC tenderer or their personnel. The QA consultants should ensure insurance coverage of the employees.</p>

Signature of tenderer

3.5 QAQC Tenderer's Actions Requiring Client's Prior Approval	The QAQC tenderers shall obtain the COC's prior approval in writing before taking any of the following actions. (i) For conducting special tests at any recognized laboratories at no extra cost and owning the responsibility for the correctness of the report (ii) For engaging any retired / in service COC or Government Engineers, of TamilNadu
3.6 Reporting Obligations	The QAQC tenderers shall submit to the COC the reports and documents specified in this tender, in the form, in the numbers and within the time periods. All the information, work wise, would be documented in a register.
3.7 Documents Prepared by the QAQC Tenderer to be the Property of the Client	All reports and other documents prepared by the QAQC tenderers in performing the services shall become and remain the property of the COC, and the QAQC tenderers shall not later than upon termination or expiration of this contract, deliver all such documents to the COC, together with a detailed inventory thereof. The QAQC tenderers may retain a copy of such documents and shall not disclose any proprietary or confidential information either during the term or after the expiration of this contract.
3.8 Accounting, Inspection and Auditing	The QAQC tenderer (I) shall keep accurate and systematic accounts and reports in respect of the services hereunder, in accordance with internationally accepted accounting principles and in such form and detail as will clearly identify all relevant time charges and cost, and bases thereof and (ii) shall permit the COC or its designated representative periodically and up to one year from the expiration of termination of this contract, to inspect the same and make copies thereof as well as have them auditor appointed by the COC.

4. QAQC TENDERER'S PERSONNEL

4.1 Description of Personnel	The QAQC Tenderer shall employ and provide such qualified and experienced Personnel. The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the QAQC Tenderer's Key Personnel are described in Clause 5 of TOR.
4.2 Removal and/or Replacement of Personnel	<p>(a) Except as the COC may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the QAQC Tenderer, such as retirement, death, medical incapacity, among others, it becomes necessary to replace any of the Key Personnel, the QAQC Tenderer shall provide as a replacement a person of equivalent or better qualifications.</p> <p>(b) If the COC's finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the QAQC Tenderer shall, at the Client's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Client.</p> <p>(c) The QAQC Tenderer shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.</p>

5. OBLIGATIONS OF THE CLIENT

5.1 Assistance and Exemptions	The COC shall use its best efforts to ensure that the Government shall provide the QAQC Tenderer such assistance and exemptions as specified in the SC.
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6. PAYMENTS TO THE QAQC TENDERER

6.1 Lump-Sum Payment	The total payment due to the QAQC Tenderer shall not exceed the Contract Price which is an all inclusive fixed lump-sum covering all costs required to carry out the Services prescribed in Clause 6.4 of GC.
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Signature of tenderer

6.2 Contract Price	(a) The price payable in Indian Rupees.				
6.4 Terms and Conditions of Payment	<p>Payment shall be made as mentioned below.</p> <p>The office estimate value (Project cost) of the Proposed construction works in PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA in Chennai city would be approximately as follows.</p> <table border="1" data-bbox="785 537 1577 730"> <thead> <tr> <th data-bbox="785 537 884 575">Sl.No.</th> <th data-bbox="894 537 1577 575">Package Details</th> </tr> </thead> <tbody> <tr> <td data-bbox="785 578 884 730">1.</td> <td data-bbox="894 578 1577 730">PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA Project Cost :- Rs.116.63 Crores.</td> </tr> </tbody> </table> <p>Terms of payment will be on a man-month basis in accordance with the COC's terms and conditions.</p> <p>The Corporation of Chennai would make the payment in favour of QAQC tenderer within 40 days from the date of claim made by the QAQC tenderer. Necessary taxes will be recovered from the bills as per the prevailing and applicable Govt. Orders.</p> <p>The QAQC tenderer payment for their services will be based on the number Man-months actually deployed for Key Personnel and Subordinates for the works on the direction of COC and the number of Lab tests conducted in the QAQC laboratory / Mobile Testing laboratory</p> <p>The average requirement of Site Engineers permonth has been fixed as eight, this eight numbers may decrease/increase depending upon the number of on going works sites for effective supervision during that month. The total requirement of Site engineers has been worked out as 8 x 24 = 192 manmonths, this quantity variation will be ± 15%. However payment will be actual number of site engineers deployed to the work sites and based on the written request from COC.</p> <p>All the tests carried out in the Mobile laboratory , should be conducted by Lab Analyst .The test rates includes the wages of lab Analyst , lab equipments and Supporting staff , hiring of vehicle, fuel with driver. and all other incidental charges and applicable taxes.</p>	Sl.No.	Package Details	1.	PACKAGE V : ROYAPURAM WATER SHED AREA, NORTH BUCKINGAM CANAL WATER SHED AREA, CENTER BUCKINGAM CANAL WATER SHED AREA AND SOUTH BUCKINGAM CANAL WATER SHED AREA Project Cost :- Rs.116.63 Crores.
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6.5 Payment terms and penalty	<p>The payment shall be made as per the conditions mentioned in tender clause 6.4 of GC .</p> <p>The successful QAQC tenderer shall commence the work as per the tender clause 2.1 of GC. Otherwise the penalty will be imposed as per the tender clause 2.2.1 of GC for delayed Commencement.</p> <p>Failure (non performing the duty of Supervising the work) will be calculated in terms of number of days. If the failure continues more than one day, the deductions from the bill will be done per day at the rate of Rs. 1000/- per personal.</p> <p>If the failure exceeds 10 days, i.e. the service is not provided for more than 10 days in a month, no payment will be made for that month.</p> <p>For non performance of tests the deduction will be 0.25 % on the value of work executed by the Civil Contractor for the non performance period by QAQC Tenderer.</p>				
6.6 Retention Money	<p>5% of the fee payable to QAQC tenderer will be retained as Retention Amount in each running Bills. In the final payment only 2.5% on the total value of the QAQC service charges will be deducted as Retention amount. These Retention amount will be Retained for a Period of two years from the date of completion of Project in order to enable the Department Officers to watch the effect of all</p>				

Signature of tenderer

	seasons on the work.
7. GOOD FAITH	
7.1 Good Faith	The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.
8. SETTLEMENT OF DISPUTES	
8.1 Amicable Settlement	The Parties agree that the avoidance or early resolution of disputes is crucial for a smooth execution of the Contract and the success of the assignment. The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.
8.2 Dispute Resolution	Any dispute between the Parties as to matters arising pursuant to this Contract that cannot be settled amicably within fourteen (14) days after receipt by one Party of the other Party's request for such amicable settlement may be submitted by either Party for settlement in accordance with the provisions specified in the SC.

Signature of tenderer

III. Special Conditions of Contract

III. Special Conditions of Contract

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
1.1	The words "in the Government's country" are amended to read "in India".
1.2	The language is : English All the Certification and Documents should be in English Or officially (Embassy) certified copy in English should be enclosed.
1.3	The addresses are: Client representative: Superintending Engineer, Attention: Storm Water Drain Department, Corporation of Chennai, Chennai 3. Fac-simile: 044 25619 316. E-mail: seswd@chennaicorporation.gov.in QAQC Tenderer: _____ Attention: _____ Facsimile: _____ E-mail: _____

3. Dispute Resolution	Any dispute between the Parties as to matters arising pursuant to this Contract that cannot be settled amicably according to Clause 5 may be submitted by either Party for settlement
4. Governing Law and Jurisdiction	This tender shall be construed and interpreted in accordance with and governed by the laws of Government of India and the Courts at Chennai, Tamil Nadu, India, shall have jurisdiction over all matters arising out of or relating to this Agreement.
5. Dispute Settlement	<p>Disputes shall be settled by arbitration in accordance with the following provisions:</p> <p>Dispute Settlement</p> <p>(i) Any dispute, controversy, or claim arising out of or relating to this contract, or the breach, termination or invalidity thereof shall be settled by arbitration in accordance with following provisions:</p> <p>(ii) Each dispute submitted by a Party to arbitration shall be heard by a sole arbitrator or an arbitration panel composed of three arbitrators, in accordance with the following provisions:</p> <p>(a) Where the Parties agree that the dispute concerns a technical matter, they may agree to appoint a sole arbitrator or, failing agreement on the identity of such sole arbitrator within thirty (30) days after receipt by the other Party of the proposal of a name for such an appointment by the Party who initiated the proceedings, either Party may apply to the President, Institution of Engineers India, New Delhi, for a list of not fewer than five nominees and, on receipt of such list, the Parties shall alternately strike names there from, and the last remaining nominee on the list shall be the sole arbitrator for the matter in dispute. If the last remaining nominee has not been determined in this manner within sixty (60) days of the date of the list, the President, Institution of Engineers India, New Delhi, shall appoint, upon the request of either Party and from such list or otherwise, a sole arbitrator for the matter in dispute.</p> <p>(b) Where the Parties do not agree that the dispute concerns a technical matter, the Client and the Consultants shall each appoint one arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the arbitrators named by the Parties do not succeed in appointing a third arbitrator within thirty (30) days after the latter of the two arbitrators named by the Parties has been appointed, the third arbitrator shall, at the request of either Party, be appointed by Secretary, the Indian Council of Arbitration, New Delhi.</p> <p>(c) If, in a dispute subject to Clause 3.1 (ii) (b), one Party fails to appoint its arbitrator within thirty (30) days after the other Party has appointed its arbitrator, the Party which has named an arbitrator may apply to the Secretary, Indian Council of Arbitration, New Delhi, to appoint a sole arbitrator for the matter in dispute, and the arbitrator appointed pursuant to such application shall be the sole arbitrator for that dispute.</p>
6. Rules of Procedure	Arbitration proceedings shall be conducted in accordance with procedure c
7. Substitute Arbitrator	If for any reason an arbitrator is unable to perform his function, a substitute shall be appointed in the same manner as the original arbitrator.
8. Qualifications of Arbitrators	The sole arbitrator or the third arbitrator appointed shall be an technical expert with extensive experience in relation to the matter in dispute.
	In any arbitration proceeding hereunder:

<p>12. Photographic Documentation</p>	<p>supervision of construction work, workman ship, Quality, Quantity of all the construction works. The execution Contractor would be advised not to carryout important activities of construction without prior information to concerned Executive Engineer as well as representative of QAQC tenderer.</p> <p>Documentation of the reports on each work taken up in the Corporation of Chennai, Work-wise Digital photographs & Digital Photographs CD, before commencing, during and after execution with final sets of report would be submitted to the Joint Commissioner (Works), Corporation of Chennai with a copy to the Superintending Engineer / Chief Engineer.</p>
<p>13. Sales Tax</p>	<p>The QAQC tenderers would pay the Sales Tax (as applicable) to the respective Department on receipt of payment from the Corporation Chennai and the copy of the remittance challan would be submitted to the Corporation of Chennai as a proof of payment of sales Tax.</p>
<p>14. Indemnity</p>	<p>In case the quality of any work if found inferior to the specification given to QAQC tenderer, during the Quality check by the State Vigilance department or by any other authority, the QAQC tenderer shall indemnify the Corporation of Chennai to an extent of 2% of the Construction cost . The indemnity bond shall be executed by the QAQC tenderer and will form a part of the agreement.</p>
<p>15. Quality Assurance Test & Reports</p>	<p>The Indian Standards have formulated the guide lines for all the works and the materials used in the works with the assistance and recommendations of the other Institutions like American Concrete Institution; British Standards Institution; Advisory Committees .The purpose of these guidelines, in general, is to promote good engineering practice, safety, economy, speed, quality and proper finish in concrete construction.</p>
<p>16. Documentation</p>	<p>Daily Record keeping</p> <p>Preparation of daily QAQC documentation will consist of daily field reports prepared by the QAQC Engineer which may include all the following information. The date, project name, location, and other identification;</p> <ul style="list-style-type: none"> • A summary of the weather conditions; • A summary of locations where construction is occurring; • Equipment and personnel on the project; • A description of materials used and references of results of testing and

<p>17. Construction Problems and Resolution Data Sheets</p>	<p>documentation;</p> <ul style="list-style-type: none"> • Identification of deficient work and materials; • Results of re-testing corrected “deficient work;” • An identifying sheet number for cross referencing and document Control; • Descriptions and locations of construction monitored; • Type of construction and monitoring performed; • Description of construction procedures and procedures used to evaluate construction; • A summary of test data and results; • Calibrations or re-calibrations of test equipment and actions taken as a result of re-calibration; • Decisions made regarding acceptance of units of work and/or Corrective actions to be taken in instances of substandard testing results; • A discussion of agreements made between the interested parties which may affect the work; and • Signature of the respective QAQC Site Manager. <p>Construction Problems and Resolution Data Sheets, to be submitted with the daily field reports prepared by the Q.C Engineer, describing special construction situations, will be cross-referenced with daily field reports, specific observation logs, and testing data sheets and will include the following information, where available:</p> <ul style="list-style-type: none"> • An identifying sheet number for cross-referencing and document Control; • A detailed description of the situation or deficiency; • The location and probable cause of the situation or deficiency; • How and when the situation or deficiency was found or located; • Documentation of the response to the situation or deficiency; • Final results of responses; • Measures taken to prevent a similar situation from occurring in the future.
<p>18. Design and/or Specifications Changes</p>	<ul style="list-style-type: none"> • Design and/or specifications changes may be required during construction. In such cases, the QAQC Engineer will bring to the notice of competent authorities. Design and/or specification changes will be made with the written agreement of the Engineer and will take the form of an addendum to the <i>Drawings</i> and specifications.
<p>19. Other conditions</p>	<ul style="list-style-type: none"> • The QAQC tenderer’s reporting shall be of recommendatory nature informing the Corporation of Chennai, about the quality of materials, based on test results and field observations. • Whenever the QAQC tenderer’s QAQC reports are delayed and the contractor’s payment is also consequently delayed, In such case if the

	<p>Engineer in charge instructs the QA/QC tenderer to submit the report, the QA/QC tenderer is bound to submit the same within 2 weeks. Failure to furnish within the stipulated period will attract penalty at the rate of 0.025% per day on the value of payment delayed to the Construction agency and for such period. If such delays occurs in repeated occasions the QAQC tenderer's will be held responsible for the delay and the performance of the QAQC tenderer's will be evaluated accordingly and a decision will be taken by COC whether to continue or terminate the services of the QAQC tenderer</p> <ul style="list-style-type: none">• Whenever the QAQC tenderer's reports do not represent the factual quality of construction executed by the contractor, the QAQC tenderer will be held responsible for the quality of work and the performance of the QA/QC agency will be evaluated accordingly and a decision will be taken by COC whether to continue or terminate the services of the QAQC tenderer including initiating criminal proceedings.• In addition to the test specified in the relevant code and as per this contract, If necessary core tests or any other tests as suggested by COC required for verification/confirmation of the quality of work executed shall also be conducted.• Oral statements made by the QAQC firm or its representative at any time regarding the quality, quantity or any other matter will not carry any weight and will not be considered.• The QAQC tenderer shall not at any time subcontract, convey, transfer, or assign its obligations or services to be performed under this Contract, either in whole or in part to any other agency/firm in the overall performance of the contract.
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IV. Appendices

APPENDIX A – DESCRIPTION OF SERVICES

Note: *This Appendix will include the final Terms of Reference worked out by the COC and the QAQC Tenderers during technical negotiations, dates for completion of various tasks, place of performance for different tasks, specific tasks to be approved by COC, etc.*

Appendix B

Reporting Requirements

[List format , frequency and contents of reports; persons to receive them; dates of submission, number of copies, etc. If no reports are to be submitted, state here "Not applicable".]

Appendix C

Key Personnel of QAQC Tenderers

(Refer Clause 5 of TOR)

List under: C-1 *Titles [and names, if already available], detailed job descriptions and minimum qualifications and experience of Personnel to be assigned to work in India, and staff-months for each.*

ANNEXURE – V
PERFORMANCE BANK GUARANTEE

To: _____ [name of Employer]
_____ [address of Employer]

WHEREAS _____
[name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of
Contract No. _____ dated _____ to execute _____ [name of
Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you
with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with
his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the
Contractor, up to a total of _____ [amount of guarantee]
_____ [in words], such sum being payable in the types and proportions of
currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written
demand and without cavil or argument, any sum or sums within the limits of _____
[amount of guarantee]¹ as aforesaid without your needing to prove or to show grounds or reasons for your
demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us
with the demand.

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

This guarantee shall be valid until (i.e.) 28 days from the date of expiry of the Defects
Liability Period.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____
Date _____

—

- 1 An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees from any Nationalised/ Scheduled Bank..
- 2 Bank Guarantee Validity date should be mentioned specifically.

Check List:

Sl. No.	Description								
1	<p>1.1. The QAQC tenderer should have experience in Providing Quality Assurance and Quality Control services for similar nature of work during last three years.</p> <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th style="text-align: center;">Financial Year</th><th style="text-align: center;">Value of Consultancy Services provided for Construction of Civil works.</th></tr></thead><tbody><tr><td style="text-align: center;">2009-10</td><td></td></tr><tr><td style="text-align: center;">2008-09</td><td></td></tr><tr><td style="text-align: center;">2007-08</td><td></td></tr></tbody></table>	Financial Year	Value of Consultancy Services provided for Construction of Civil works.	2009-10		2008-09		2007-08	
Financial Year	Value of Consultancy Services provided for Construction of Civil works.								
2009-10									
2008-09									
2007-08									
	<p>1.2 The QAQC agency should have done similar consultancy services for a project value not less than Rs.116 Crores during the last three years in State / Central Government /Quasi Government/ Government undertakings. . Note: The agency should submit the completion certificate obtained from the client not below the rank of Executive Engineer or equivalent.</p>								
	<p>1.3 Out of the last three years, in any one of the two consecutive years the QAQC tenderer financial turnover should not be less than Rs.3.48 Crores.</p> <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th style="text-align: center;">Financial Year</th><th style="text-align: center;">Turn over</th></tr></thead><tbody><tr><td style="text-align: center;">2009-10</td><td></td></tr><tr><td style="text-align: center;">2008-09</td><td></td></tr><tr><td style="text-align: center;">2007-08</td><td></td></tr></tbody></table>	Financial Year	Turn over	2009-10		2008-09		2007-08	
Financial Year	Turn over								
2009-10									
2008-09									
2007-08									

1.4. Bid Capacity :

The Available bid capacity shall be more than **Package V: Rs.1.17 Crores** Available bid capacity will be calculated as under.

$$\text{Assessed Available Bid Capacity} = (AXNX1.5-B)$$

Where,

A = Maximum value of Financial Turnover in any one year during the last three years (Updated to 2009-2010 price level) taking into account the completed as well as works in progress based on the weightage as below.

N= Number of years prescribed for completion of Construction works i.e 24 Months.

B= Value, at 2009-2010 price level, of existing commitments and on-going works to be completed during the next 24 months based on the weightage as below.

Note: The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.

Weightage

Financial turnover and cost of completed works of previous years shall be given weightage of 10% per year based on Rupee value to bring them to 2009-2010 price level.

The following enhancement shall be used for the costs of work executed and the financial figures to a common base value for work completion.

Year	Factor of Index
2007-08	1.21
2008-09	1.10
2009-10	1.00

The applicant will indicate actual figures of Cost and Amounts in the schedule without accounting for the above mentioned factors.

While evaluating the bid capacity in opening of Financial bids of subsequent package, the bid value of lowest offer in other packages (Financial bids opened) value also be taken in to account and will be treated as work on hand.

1.5 Key personnel:

Sl.No.	Expert	No. of Persons
1	Team Leader	1
2	Senior Quality Engineer	1
3	Site Engineer	8
4	Data Entry Operator	1
5	Lab Assitant	1

The minimum required key personals along with their names and experience to be furnished in the Technical Bid . The same personals can not be engaged for any other works. If the minimum key personals are considered once in any of the contract as the lowest Bidder, then the same personals can not be considered for subsequent tenders.

Experience and qualifications are as per the conditions given under **CLAUSE 5** of Terms of Reference.

	<p>1.6 Lab:</p> <p>QAQC Tenderer should own/hire the lab to test the materials as per BIS. The building for laboratory shall be owned / or rented located within the Chennai Corporation limit area to test the materials as per BIS . The tied up lab should be any Technical Educational Institute / Government authorized testing labs for which documentary evidence attested by Notary Public has to be produced while submitting the tender. List of equipments are as per Annexure - B-I and Tests to be conducted as per Annexure - C-I of TOR. Calibration certificates for the devices used for testing should be obtained and Periodical Calibration to be done as per BIS norms.</p> <p>However QAQC tenderer must own mobile testing laboratory with the equipments listed in Annexure- B - II and test to be conducted are as per Annexure – C-II of TOR.</p>
	<p>1.7 The QAQC tenderer should have submitted their I.T Returns of the last 3 years. (2007- 08, 2008-09,2009-10).</p>
	<p>E.M.D.Amount : EMD Amount Rs.117000/- in the form of Demand Draft of any Nationalized Bank / Scheduled Bank payable at Chennai drawn in favour of Commissioner, Corporation of Chennai, Chennai – 600 003. EMD in the form of Bank Guarantee will not be accepted.</p>

ANNEXURE VI
I - Inspection Report

1. BED THICKNESS

Bed provided or not	Thickness as per estimate	Thickness provided	Acceptability	Remarks

2. SLOPE

Where checked	Whether leveling instrument used or not	Slope required as per design	Actual slope	Acceptability	Remarks

3. PLASTERING THICKNESS

Where used	Plastering thickness required as per estimate	Actual plastering thickness	Acceptability	Remarks

4. UNDULATIONS & HONEY COMB CHECKING

Where checked	PIN vibrator used Yes/No	Metal exposed Yes/No	Acceptability	Remarks

5. CHECK FOR CURING

Name of component	No. of days curing required as per IS Code	No. of days curing done	Acceptability	Remarks

6. MIXER, HOPPER & BOXES

Concrete mixer is used Yes/No	Mixer having hopper or not Yes/No	Mixer having measuring boxes for metal Yes/No	Mixer having Measuring Box for sand Yes/No	Acceptability	Remarks

7. SLUMP TEST

Where check	Slump test of concrete carried out or not	Type of test (Cone slump test)	Slump allowed	Actual Slump	Acceptability	Remarks

8. SPACING, DIA, COVER LAP

Spacing required	Actual spacing	Dia required	Actual Dia	Over lap required	Actual lap provided	Acceptability	Remarks

9. COVER MAINTENANCE

Where tested	Component of the structure Slab/Beam/Column etc. specify	Cover required	Actual cover	Acceptability	Remarks

II .Material Tests

1. Cement Test Report-Fineness

Name of the Test	Required grade as per Estimate PPC/OPC 33/OPC43/OPC53		Requirement as per IS Code	Actual fineness	Acceptability		Remarks if any
	PPC/OPC	Actual Grade			Grade Yes/No	Fineness Yes/No	

2. Cement Test Report-Setting time

Setting time test	Setting time required as per IS Code (minutes)	Actual Setting times	Acceptability	Remarks
(i) Initial				
(ii) Final				

8..MEASUREMENT/CHECK FOR CONCRETE SECTIONS

Name of the component column/Area/Slab etc.	Required dimensions as per drawing (mention L,B,D)	Actual Dimensions	Acceptability	Remarks

9. MORTAR SAMPLE TESTING

Where used	Cement and sand ratio required	Actual Cement sand ratio	Acceptability	Remarks

ANNEXURE - VII

Reporting Requirements

The following reports and records will be submitted to the engineer in charge.

Sr. No.	Description of Report	To whom to be sent	Time of submission
i)	Calibration data of laboratory testing equipment	S.E / SWDD	Before commencement of testing work
ii)	Materials review reports	A.E.E / SWDD	Whenever new stocks of materials arrive on work site before their use in construction work.
iii)	Inspection reports	Recorded in the Site order book.	Daily and as frequently as required
	Test Reports	A.E.E./SWDD	Daily and as frequently as required
iv)	Test data: All test reports and results are to be furnished	S.E / SWDD and E.E./SWDD	Weekly and as frequently as required
v)	Quality audit reports(Verification reports)	E.E/SWDD with a copy to S.E./SWDD	Monthly
vi)	Quality certificates for authorizing running payments of work done	S.E (SWDD)	Before each payment of work bill.
vii)	Quality certificates for completed work payments.	S.E (SWDD)	Before final payment of work bill.
viii)	Specific examples of deficiencies found and non-compliance	E.E (SWDD)	Soon after verification
ix)	Evidence of compliance of corrective actions.	E.E (SWDD)	Soon after detection of deficiencies.
x)	Suggestions for appropriate corrective action.	E.E (SWDD)	Soon after detection of deficiencies.
xi)	Progress Monitoring report	J.C.(Works) S.E.(SWD)	Monthly
xii)	Review Meeting Minutes.	J.C.(Works) S.E.(SWD)	Weekly