

REQUEST FOR PROPOSAL (RT-3)
FOR
ROOF TOP RAIN WATER HARVESTING WORKS
& WASTE WATER RECYCLING WORKS
IN ABD AREA OF KANPUR CITY
(INCLUDING O & M FOR 5 YEARS)



ISSUED BY THE

KANPUR SMART CITY LIMITED

Kanpur Nagar Nigam, Motijheel Kanpur – 208002

Phone: 0512-2541258, 2531215

Fax: 0512-2531662, Website: <https://kanpursmartcity.in/>

E-mail: ksclkanpur@gmail.com

KANPUR SMART CITY LIMITED

KEY DATES

Kanpur Smart City Limited invites Bids through E tendering from the Bidders fulfilling the Eligibility Criteria specified hereunder for Rain Water Harvesting Works & Waste Water Recycling works in Kanpur city.

Bid Information

| Sl. No. | Events | Duration |
|----------------|---|--|
| 1 | RfP publishing Date | From 11.09.2019 |
| 2 | Cost of Bidding Document | The bidder shall have to submit Rs.10, 000/- (Rupees Ten Thousands only) (Non Refundable) through a Demand Draft in favour of 'Chief Executive Officer, Kanpur Smart City Limited' payable at Kanpur. |
| 3 | Nature of Contract | Item Rate |
| 4 | Last Date for submission of Bid (Online) | 18.09.2019 at 03:30 PM |
| 5 | Date & time for opening of Technical Bid | 18.09.2019 at 04:30 PM |
| 6 | Validity of Bid | 180 days from the last date of online submission of bid. |
| 7 | Bid Security (EMD) | Rs. 17,00,000/- (INR Seventeen Lakh only) in the form of BG / FDR / TDR from any Scheduled /Nationalized Bank. |
| 8 | Date time and place of opening of Financial Bid | To be informed later. |
| 9 | Address for communication | Chief Executive Officer, KSCL, Nagar Nigam Mukhyalay, Motijheel, Kanpur – 208002 |

DISCLAIMER

The information contained in this Request for Proposal (RFP) document or subsequently provided to Bidders, whether verbally or in documentary form by or on behalf of Kanpur Smart City Limited or any of its employees, is provided to Bidders on the terms and conditions set out in this RFP document and any other terms and conditions subject to which such information is provided.

This RFP document is not an Agreement and is not an offer or invitation to any other party. The purpose of this RFP document is to provide the Bidders with information to assist the formulation of their Proposal submission. This RFP document does not purport to contain all the information each Bidder may require. This RFP document may not be appropriate for all persons and it is not possible for KSCL and their employees to consider the investment objectives, financial situation and particular needs of each Bidder. Certain Bidders may have a better knowledge of the proposed Project than others. Each recipient must conduct its own analysis of the information contained in this RFP document or to correct any inaccuracies therein that may appear in this RFP document and is advised to carry out its own investigation into the proposed Project, the legislative and regulatory regimes which applies thereto and by and all matters pertinent to the proposed Project and to seek its own professional advice on the legal, financial, regulatory and taxation consequences of entering into any agreement or arrangement relating to the proposed Project.

KSCL and their employees make no representation or warranty and shall incur no liability under the Law of Contract, Tort, the Principles of Restitution or unjust enrichment or otherwise for any loss, expense or damage, accuracy, reliability or completeness of the RFP document, which may arise from or be incurred or suffered in connection with anything contained in this RFP, any matter deemed to form part of this RFP document, the award of the Project, the information and any other information supplied by or on behalf KSCL or their employees, any consultants or otherwise arising in any way from the selection process for the Project.

KSCL may in its absolute discretion, but without being under any obligation to do so, can amend or supplement the information/clauses/articles in this RFP document. The information that KSCL is in a position to furnish is limited to this RFP and the information available at the contact addresses mentioned herein along with any amendments/ clarifications thereon. This RFP and the information contained herein are confidential and for use only by the person to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisor). In the event that the recipient does not continue with the involvement in the project in accordance with RFP the information contained in the RFP shall not be divulged to any other party. The information contained in the RFP must be kept confidential. Mere submission of a responsive Bid/ Proposal does not ensure selection of the bidder as Concessionaire.

Instructions for Online Bid Submission

- i. Instructions to the Bidders to submit the bids online through the Central Public Procurement Portal for e Procurement at www.etender.up.nic.in
- ii. Possession of valid Digital Signature Certificate (DSC) and enrolment/registration of the contractors/bidders on the e-Procurement/e-tender portal are prerequisite for e- tendering.
- iii. Bidder should register for the enrolment in the e-Procurement site using the “Online Bidder Enrolment” option available on the home page. Portal enrolment is generally free of charge. During enrolment/registration, the bidders should provide only valid and true information including valid email id. All the correspondence shall be made directly with the contractors/bidders through email id as registered.
- iv. Bidder need to login to the site through their user ID/ password chosen during enrolment/registration.
- v. Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY/TCS/ nCode / eMudra or any other Certifying Authority recognized by Controller of Certifying Authorities (CCA) India on e-Token / SmartCard, should be registered.
- vi. The registered DSC only should be used by the bidder in the transactions and should ensure safety of the same.
- vii. Contractor/Bidder may go through the tenders published on the site and Download the tender documents/schedules for the tenders.
- viii. After Downloading/getting the tender document/schedules, the Bidder should go through them carefully and then submit the documents as required, otherwise bid will be rejected.
- ix. Any clarifications may be sought online through the tender site, through the contact details or during pre-bid meeting, if any. Bidder should take into account the corrigendum, if any published before submitting the bids online.
- x. Bidder may log in to the site through the secured login by the user id/password chosen during enrolment/registration and then by submitting the password of the e-Token/Smartcard to access DSC.
- xi. Bidder may select the tender in which he/she is interested in by using the search option and then move it to the ‘my tenders’ folder.
- xii. From my tender folder, he may select the tender to view all the details uploaded there.
- xiii. It shall be deemed that the bidder has read and understood all the terms and conditions before submitting the offer. Bidder should go through the tender schedules carefully and upload the documents as asked; otherwise, the incomplete bid shall stand rejected.
- xiv. Bidder should get ready the bid documents to be submitted as indicated in the tender document/schedule in advance and ordinarily it shall be in PDF/xls/rar/jpg/dwf formats. If there is more than one document, all may be clubbed together and provided in the requested format. Bid documents may be scanned with 100 dpi with black and white option. It is advisable that each document to be uploaded through online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced through zip/rar and the same, if permitted may be uploaded. The file size being less than 1 MB the transaction uploading time will be very fast.
- xv. The Bidders can update well in advance, the documents such as certificates, annual report details etc., under “My Space option” and these can be selected as per tender requirements and then send along with bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.
- xvi. Bidder should submit the Tender Fee/ EMD as specified in the tender. The hard copy should be posted/couriered/given in person to the Tender Inviting Authority, within bid submission due date and time as indicated in the tender. Scanned copy of the instrument should be uploaded as part of the offer.

- xvii. While submitting the bids online, the bidder shall read the terms and conditions and may accept the same to proceed further to submit the bid packets.
- xviii. The bidder has to select the payment option as online to pay the Tender FEE/ EMD as applicable and enter details of the instruments.
- xix. The details of the DD/any other accepted instrument, physically delivered, should tally with the details available in the scanned copy and the data entered during bid submission time, otherwise submitted bid shall not be acceptable or liable for rejection.
- xx. The bidder has to digitally sign and upload the required bid documents one by one as indicated. The very act of using DSC for Downloading the bids and uploading their offers shall be deemed to be a confirmation that they have duly read, understood and agreed with all clauses of the bid document including General Conditions of Contract (GCC) without any exception.
- xxi. The bidder has to upload the relevant files required as indicated in the cover content.
- xxii. In case of any irrelevant files, the bid may be rejected.
- xxiii. If the price bid format is provided in a spread sheet file like BoQ_XXXX.xls, the rates offered should be entered in the allotted space only and uploaded after filling the relevant columns. The Priced-bid/BOQ template shall not be modified/replaced by the bidder; else the bid submitted is liable to be rejected for the tender.
- xxiv. The bidders are advised to submit the bids through online e-tendering system to the Tender Inviting Authority well before the bid submission due date and time (as per Server System Clock). The Authority shall not be held responsible for any delay or the difficulties faced during the submission of bids online by the bidders.
- xxv. After the bid submission (i.e. after Clicking “Freeze Bid Submission” in the portal), the acknowledgement number indicated by the system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender and also be used as entry pass to participate in the bid opening.
- xxvi. The time settings fixed in the server side and displayed at the top of the tender site, shall remain valid for all actions of requesting, bid submission, bid opening etc., in the e-Tender system. The bidders should follow such time during bid submission.
- xxvii. All the data being entered by the bidders would be encrypted using Public Key Infrastructure (PKI) encryption techniques to ensure the secrecy of the data. The data entered is not retrievable by unauthorized persons during the bid submission and until the time of bid opening by any person.
- xxviii. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers’ public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- xxix. The confidentiality of the bids is maintained with the use of Secured Socket Layer (SSL) 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- xxx. The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) exit option in the browser.
- xxxi. For any queries regarding e-Tendering process, the bidders may contact at address as provided in the tender document. Also, for any further queries, the bidders are advised to send a mail to – **kscikanpur@gmail.com and Mob no. +91-7081802663 (Nodal Officer, Kanpur Smart City Ltd. Ms. Pooja Tripathi)**

DETAILED INVITATION FOR BIDS (IFB)
NATIONAL COMPETITIVE BIDDING

1. The Chief Executive Officer, Kanpur Smart City Limited, Kanpur invites fresh bids from Class-I/II Contractors registered with UP Jal Nigam/ PWD / CPWD / National or State level Government Department for the works as detailed below
2. Prices quoted should be net inclusive of all taxes, duties, levies etc. but excluding of GST, must be in Indian Rupees and shall remain valid for 180 (one hundred and eighty) days from the closing date of bid.
3. Details may be downloaded from the e-procurement website www.etender.up.nic.in and the official website of KSCL, www.kanpursmartcity.in
4. Bid must be accompanied by a security of the amount as specified in the Bid Document payable at Kanpur and drawn in favour of the Employer. Bid security will have to be in any of the form as specified in the bidding document and shall have to be valid for at least 45 days beyond the validity of bids. Bid must also accompany a non-refundable bid document fee as specified in the bidding documents in the form of Demand Draft/Banker's Cheque on any nationalized/schedule bank payable at Kanpur in favour of the Employer. Bids received without non-refundable document fee will be rejected.
5. Any Contractor whose work under KNN/KSCL has been rescinded due to any reason or having litigation with KNN/KSCL is also not eligible for this bidding process.
6. Other details can be seen in the detailed bid document.

| Sl. No. | Name of the Work | Bid Security (Rs in Lakhs) | Period of Completion |
|----------------|---|-----------------------------------|-----------------------------|
| 1 | Rain Water Harvesting Works at Various Government Buildings in ABD area of Kanpur & Waste Water Recycling Works at Dhobi Ghat, Near Bhaironghat, Kanpur including O&M (Excluding Electricity charges) for 5 Years | 17.00 | 270 Days |

Contents

| | |
|---|-----------|
| ISSUED BY THE | 1 |
| Bid Information | 2 |
| DISCLAIMER | 3 |
| Instructions for Online Bid Submission..... | 4 |
| DETAILED INVITATION FOR BIDS (IFB) | 6 |
| A. General | 12 |
| 1. Scope of Bid..... | 12 |
| 2. Source of Funds..... | 12 |
| 3. Eligible Bidders | 12 |
| 4. Qualification of the Bidder..... | 13 |
| 5. One Bid per Bidder | 18 |
| 6. Cost of Bidding | 18 |
| 7. Site visit | 18 |
| B. Bidding Documents | 19 |
| 8. Content of Bidding Documents | 19 |
| 10. Amendment of Bidding Documents | 19 |
| C. Preparation of Bids | 20 |
| 11. Language of the Bid | 20 |
| 12. Documents comprising the Bid | 20 |
| Part-I shall be named “Technical Bid” and shall comprise | 20 |
| Part-II shall be named “Financial Bid” and shall comprise..... | 20 |
| – ONLINE SUBMISSION ONLY. | 20 |
| 13. Bid Prices..... | 21 |
| 14. Currencies of Bid | 21 |
| 15. Bid Validity..... | 21 |
| 16. Bid Security / Earnest Money | 21 |
| 17. Alternative Proposals by Bidders | 22 |
| 18. Format and Signing of Bid | 22 |
| D. Submission of Bids | 23 |
| 19. Sealing and Marking of Bids..... | 23 |
| 20. Deadline for Submission of the Bids | 23 |
| 21. Late Bids | 24 |
| E. Bid Opening and Evaluation..... | 24 |
| 22. Bid Opening | 24 |
| 23. Process to Be Confidential | 25 |
| 24. Clarification of Bids..... | 25 |

| | |
|--|----|
| 25. Examination of Bids and Determination of Responsiveness | 25 |
| 26. Correction of Errors | 26 |
| 27. Evaluation and Comparison of Bids | 26 |
| F. Award of Contract..... | 27 |
| 29. Award Criteria..... | 27 |
| 30. Employer's Right to accept any Bid and to reject any or all Bids..... | 27 |
| 31. Notification of Award and Signing of Agreement | 27 |
| 32. Performance Security..... | 28 |
| 33. Advance Payments and Security..... | 28 |
| 34. Fraud and Corruption:..... | 28 |
| SECTION 2:..... | 30 |
| FORMS OF BID, QUALIFICATION INFORMATION..... | 30 |
| AND LETTER OF ACCEPTANCE | 30 |
| Contractor's Bid | 31 |
| Section 3 Qualification Information..... | 32 |
| SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT FACILITIES – * CLAUSE 4.5 [B] [c] OF ITB..... | 36 |
| A. General..... | 42 |
| 1. Definitions | 42 |
| 2. Interpretation | 44 |
| 3. Language and Law | 44 |
| 4. Engineer's Decisions..... | 45 |
| 5. Delegation | 45 |
| 6. Communications | 45 |
| 7. Subcontracting..... | 45 |
| 8. Other Contractors..... | 45 |
| 9. Personnel..... | 45 |
| 10. Employer's and Contractor's Risks..... | 46 |
| 11. Employer's Risks..... | 46 |
| 12. Contractor's Risks..... | 46 |
| 13. Insurance | 46 |
| 14. Site Investigation Reports | 46 |
| 15. Queries about the Contract Data..... | 47 |
| 16. Contractor to Construct the Works..... | 47 |
| 17. The Works to Be Completed by the Intended Completion Date | 47 |
| 18. Approval by the Engineer | 47 |
| 19. Safety..... | 47 |

| | |
|---|----|
| 20. Discoveries | 47 |
| 21. Possession of the Site..... | 48 |
| 22. Access to the Site..... | 48 |
| 23. Instructions..... | 48 |
| 24. Dispute Redressal System..... | 48 |
| 25. Governing Law. | 48 |
| B. Time Control..... | 49 |
| 26. Program..... | 49 |
| 27. Extension of the Intended Completion Date | 49 |
| 28. Delays Ordered by the Engineer | 50 |
| 29. Management Meetings | 50 |
| C. Quality Control | 50 |
| 30. Identifying Defects..... | 50 |
| 31. Tests..... | 50 |
| 32. Correction of Defects | 51 |
| 33. Uncorrected Defects | 51 |
| D. Cost Control | 51 |
| 34. Bill of Quantities | 51 |
| 35. Changes in the Quantities..... | 52 |
| 36. Payments for Variations | 52 |
| 37. Cash flow forecasts | 53 |
| 38. Milestone Schedule & Payment Certificates | 53 |
| 39. Payments | 54 |
| 40. Compensation Events | 55 |
| 41. Tax..... | 56 |
| 42. Currencies | 56 |
| 43. Retention..... | 56 |
| 44. Liquidated Damages..... | 56 |
| 45. Advance Payment..... | 57 |
| 46. Securities..... | 57 |
| 47. Cost of Repairs..... | 57 |
| E. Finishing the Contract..... | 58 |
| 48. Completion..... | 58 |
| 49. Taking Over | 58 |
| 50. Final Account..... | 58 |
| 51. Operating and Maintenance Manuals | 58 |
| 52. Termination..... | 58 |

| | |
|--|-----|
| 53. Payment upon Termination | 60 |
| 54. Property | 60 |
| 55. Release from Performance | 60 |
| 56. Fraud & Corruption..... | 60 |
| F. Special Conditions of Contract..... | 62 |
| 57. LABOUR:..... | 62 |
| 58. COMPLIANCE WITH LABOUR REGULATIONS: | 62 |
| SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK | 63 |
| 59. SUB-CONTRACTING (GCC Clause 7) | 66 |
| 60. ARBITRATION..... | 67 |
| 61. PROTECTION OF ENVIRONMENT: | 68 |
| 62. LIQUIDATED DAMAGES:..... | 69 |
| 63. PRIORITY OF DOCUMENTS: | 69 |
| 64. Safety & Welfare Provisions for labour to be employed by the Contractor..... | 69 |
| SECTION 4: CONTRACT DATA | 78 |
| CONTRACT DATA | 79 |
| SECTION 5: SCOPE OF WORK, TECHNICAL SPECIFICATIONS & BOQ | 82 |
| Scope of Work:..... | 83 |
| Roof-Top Rain Water Harvesting..... | 83 |
| Dhobi Ghat near Bhairon Ghat in ABD area..... | 84 |
| Technical Specifications:..... | 85 |
| BILL OF QUANTITIES..... | 87 |
| SECTION 6: FORMS OF BID AND SECURITIES..... | 116 |
| Form of Bid | 117 |
| Forms of Securities..... | 118 |
| BID SECURITY (BANK GUARANTEE)..... | 119 |
| Annexure A: | 123 |
| Design & Drawings | 123 |

SECTION 1: INSTRUCTIONS TO BIDDERS (ITB)

A. General

1. Scope of Bid

- 1.1 The Chief Executive Officer, Kanpur Smart City Limited, Kanpur, (referred to as Employer in these documents) invites bids for the Construction of Roof-Top Rain Water Harvesting Works at Various Government Buildings in ABD area of Kanpur & Waste Water Recycling Works at Dhobi Ghat, Near Bhaironghat, Kanpur including O & M for 5 years (as defined in these documents and referred to as "the works") detailed in the table given in IFB.
- 1.2 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.
- 1.3 Throughout these documents, the terms "bid" and "tender" and their derivatives (bidder/ tenderer, bid/ tender, bidding/tendering, etc.) are synonymous.

2. Source of Funds

- 2.1 The project is executed under Smart City Mission Fund.

3. Eligible Bidders

- 3.1 This Invitation for Bids is open to all Class I/II Contractors registered with UP Jal Nigam/ PWD / CPWD / National or State level Government Departments for the works as detailed below.
- 3.2 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is not associated, nor has been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.
- 3.3 Government-owned enterprises in the Employer's country may only participate if they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Employer.
- 3.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by any Government Departments/PSU in accordance with sub-clause 34.1 of ITB.
- 3.5 The bidder has to produce character certificate, Solvency certificate, self-declaration affidavit, issued by the competent authority in original with bid document.
- 3.6 Any bidder who is an Advocate and Registered with any State Bar Council Shall not be allowed to participate in the bidding. If it is established that the contractor is registered with the state bar council, his bid shall be automatically cancelled.

4. Qualification of the Bidder

4.1 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

4.1B Bids from Joint venture are not allowed.

4.2 In the event that Pre-qualification of potential bidders has been undertaken, only bids from prequalified bidders will be considered for award for Contract. These qualified bidders should submit with their bids any information updating their original prequalification applications or, alternatively, confirm in their bids that the originally submitted prequalification information remains essentially correct as of date of bid submission. The update or confirmation should be provided in Section 2.

4.3 If the Employer has not undertaken prequalification of potential bidders, all bidders shall include the following information and documents with their bids in Section 2:

- a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
- b) Proof of registration with UP Jal Nigam/ PWD / CPWD / National or State level Government Departments with copy of photo ID proof (photocopy of driving license/PAN Card/bank passbook with photograph etc.)
- c) Total monetary value of civil construction work performed during each of the last five years for the works (*To be certified by a Chartered Accountant*).
- d) Experience in civil construction works for the last five years, and details of works under way or contractually committed; and clients who may be contacted for further information on those contracts.
- e) Major items of construction equipment proposed to carry out the Contract;
- f) Qualifications and experience of key site management and technical personnel proposed for the Contract;
- g) Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years and should be a profit making entity.
- h) Evidence of access to line(s) of credit and availability of other financial Resources facilities (15% of Contract value), certified by the Bankers (**Not more than 3 months old**);
- i) Undertaking that the bidder will be able to invest a minimum cash of 10%

of contract value of work, during implementation of the work.

- j) Authority to seek references from the Bidder's bankers;
- k) Information regarding any litigation pending in any court of law or arbitration resulting from contracts executed by the Bidder in the last five years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation, and matter in dispute.
- l) The proposed methodology and program of construction including Environmental Management Plan backed with equipment, materials and manpower planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones. *(Not mandatory for works up to Rs 10 Lakhs)*

4.4A Financial & Technical Requirements

To qualify for award of the contract, each bidder in its name should have in the last five years i.e. 2018-2019, 2017-18, 2016-17, 2015-16 and 2014-15:

- a) Average Annual financial turnover (in all Classes of Civil Engineering Construction Works) during the last 3 years, ending 31st March of the previous financial year, should be at least Rs.450 Lakhs.
- b) Satisfactorily completed at least **one similar work** of value not less than Rs.540 Lakhs or **two similar works** each of value not less than Rs. 300 Lakhs or **three similar works** each of value not less than Rs. 230 Lakhs. The bidder shall provide completion certificate to substantiate the experience from client.
- c) Bidder must have completed at least one work for Rain Water Harvesting of value not less than Rs.150 Lakhs.

***Similar Work:** Rain Water Harvesting works and allied Civil Works or Reinforced Cement Concrete Works or underground Cement Concrete works like Water Tanks or Drains or Retaining walls.

4.4B

- (a) Each bidder must produce:
 - (i) The current income-tax clearance certificate;
 - (ii) An affidavit that the information furnished with the bid documents is correct in all respects; and
 - (iii) Such other certificates as defined in the Appendix to ITB. Failure to produce the certificates shall make the bid non-responsive.

(b) Each bidder must demonstrate:

(i) Availability for construction work, of the owned, key equipment stated in the Appendix to ITB including equipment's required for establishing field laboratory to perform mandatory tests, and those stated in the Appendix to ITB;

(ii) Availability for construction work of technical personnel as stated in the Appendix to ITB.

(iii) Liquid assets and /or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of not less than the amount specified in the Appendix to ITB;

d) The bidder must not have in his employment:

(i) The near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons listed in the Appendix to ITB.

(ii) Without Government permission, any person who retired as gazetted officer within the last two years of the rank and from the departments listed in the Appendix to ITB.

e) Physical Qualifications:

Physical qualifications required for the work shall be as below:

| Sl. No | Particular | Quantity | Period |
|--------|---|--------------------|---|
| 1 | Underground RCC Tanks | 200 Cum (RCC Qty.) | Any one financial year during last 03 Financial Years |
| 2 | Boring / Drilling Bore-wells / Fixing pipes for Ground Water Recharging | 5 Nos. | Any one financial year during last 03 Financial Years |
| 3 | Fixing Rain water Downspout pipes on Buildings | 500 m | Any one financial year during last 03 Financial Years |

4.4 C Each bidder should further demonstrate:

a) Availability (either owned or leased or by procurement against mobilization advances) of the following key and critical equipment for this work. However, availability of machineries would be preferred).

| Sl. No. | Equipment Type and Characteristics | Minimum Capacity | Maximum Age of Equipment | Minimum Number Required |
|---------|---|-------------------|--------------------------|---------------------------|
| 1 | Loader cum excavator type JCB / Proclainer | 1 cum bucket size | 5 | 1 |
| 2 | Water tanker | 6 KL | 5 | 1 |
| 3 | Generator | 125 KVA | 5 | 1 |
| 4 | Leveling Instrument | | 5 | 2 |
| 5 | Vibrators with 40mm needles | | | 1 per each site (5 Sites) |
| 6 | Water spraying Pumps for curing, cleaning etc. | | | 1 per each site (5 Sites) |
| 7 | Ready Mix Concrete batching mix plant with capacity 30 cum per hour | | | 1 |

4.4D Technical personnel, Qualifications and Experience:

A. Technical Personnel are:

| Sl. No. | Designation of the person / Nos. | Qualification | Whether working in field or office | Experience of execution of similar works |
|---------|----------------------------------|----------------------|------------------------------------|--|
| 1 | Project Engineer (1 Nos) | B.E. Civil | Field (fulltime) | 5 Years |
| 2 | Site Engineer (1 Nos) | Diploma Civil | Field (fulltime) | 3 Years |
| 3 | Site Supervisor (1 Nos) | ITI or Diploma Civil | Field (fulltime) | 3 Years |

The contractor shall furnish this information on a non-judicial stamp paper of Rs 100/- only.

Based on the studies, carried out by the Engineer the minimum suggested major equipment to attain the completion of works in accordance with the prescribed construction schedule are shown in the above list.

The bidders should, however, undertake their own studies and furnish with their bid,

- a) Detailed construction planning and methodology supported with layout and necessary drawings and calculations (detailed) as stated in clause 4.3 above to allow the employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the

proposals along with the cycle time for each operation for the given production capacity to match the requirements.

- b) Availability for this work of a Project Manager/Supervisor with no less than five/three years' experience in construction of similar civil engineering works and other key personnel with adequate experience.
- c) Liquid assets and/or availability of credit facilities of no less than 15% of package value. **(Credit lines/letter of credit/certificates from Banks for meeting the funds requirement etc.)**

To qualify for a package of contracts made up of this and other contracts for which bids are invited in the IFB, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria for all the contracts in question.

4.5 Sub-contractors experience and resources shall not be taken into account in determining the bidders compliance with the qualifying criteria except to the extent stated in 4.4A above.

4.6 Available Bid Capacity

Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under: *(Not mandatory for works up to Rs 10 Lakhs)*

$$\text{Assessed Available Bid capacity} = (A * N * M - B)$$

Where

A = Maximum value of civil engineering works executed in any one year during the last five years (updated to 2018-19 price level) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited.

M is taken 2.5

B = Value, at 2018-19 price level, of existing commitments and on-going works to be completed during the period of completion of the works for which bids are invited.

Note:

- i) *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.*

| <u>Year before</u> | <u>Multiplying Factor</u> |
|--------------------|---------------------------|
| One | 1.1 |
| Two | 1.21 |
| Three | 1.33 |
| Four | 1.46 |
| Five | 1.61 |

4.7 Disqualification

Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
- participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.
- has not duly filled up the formats given in Qualification Information [1.3.1, 1.3.2, 1.4 A & B]

In case, the qualification information is not duly filled as per the prescribed formats, the bid shall be summarily rejected.

5. One Bid per Bidder

5.1 Each bidder shall submit only one bid for one contract. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

6. Cost of Bidding

6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid and the Employer will in no case be responsible and liable for those costs.

7. Site visit

7.1 The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's

own expense.

B. Bidding Documents

8. Content of Bidding Documents

8.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 10:

1. Invitation for Bids
2. Bidding Documents comprising:
 - i. Section 1: Instructions to Bidders
 - ii. Section 2: Forms of Bid and Qualification Information
 - iii. Section 3: Conditions of Contract
 - iv. Section 4: Contract Data
 - v. Section 5: Technical Specifications
 - vi. Section 6: Forms of Securities

8.2 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms and specifications, bill of quantities, forms and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to clause 25 hereof, bids, which are not substantially responsive to the requirements of the Bid Documents, shall be rejected.

9. Clarification of Bidding Documents

9.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing at the Employer's address indicated in the invitation to bid. The Employer will respond to any request for clarification which he received earlier than 15 days prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry but without identifying its source.

9.2 **Pre-bid meeting:** The purpose of the Pre-Bid Meeting will be to clarify and discuss issues with respect to the Project, the RFP document or any other related issues. The Bidder or his authorized representative is invited to attend a Pre-Bid Meeting, which shall take place at the venue specified in the Factsheet. It is preferable to attend the Pre-Bid Meeting. Subsequent to the date of the Pre- Bid Meeting, KSCL may not respond to questions or inquiries from any Bidder who has not attended the Pre-Bid Meeting. The Bidders designated representatives are invited to attend the Pre-Bid Meeting at their own cost, to be held on the date and time as specified in Factsheet.

10. Amendment of Bidding Documents

10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.

10.2 Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing to all the purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.

10.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 of ITB.

C. Preparation of Bids

11. Language of the Bid

11.1 All documents relating to the bid shall be in the English language.

12. Documents comprising the Bid

12.1 The bid to be submitted by the bidder (refer Clause 8) shall be in two separate parts:

Part-I shall be named "Technical Bid" and shall comprise

- i. Bid security in the form (refer Clause 16) Specified in section 6 and non-refundable cost of bid document.
- ii. Authorized Address and contact details of the bidder having the following information :
Address of communication:
Telephone No.(s): Office:
Mobile No.:
Facsimile (Fax) No. :
Electronic Mail Identification (E-mail ID):
- iii. Qualification information, supporting documents, affidavit and undertaking as specified in Clause 4 of ITB.
- iv. Undertaking that the bid shall remain valid for the period specified in Clause 15.1
- v. An affidavit affirming that information he has furnished in the bidding document is correct to the best of his knowledge and belief.

Part-II shall be named "Financial Bid" and shall comprise

- ONLINE SUBMISSION ONLY.

Each part will be separately sealed and marked in accordance with the sealing and Marking Instructions in Clause 19.

12.2 Bidders bidding for this contract together with other contracts stated in the IFB to form a package will so indicate in the bid together with any discounts offered for the award of more than one contract.

13. Bid Prices

- 13.1 The Contract shall be for the whole Works, as described in Clause 1 of ITB, based on the priced Bill of Quantities submitted by the Bidder.
- 13.2 The Bidder must quote his bid price in BOQ only and submit online only. A Financial Bid without any mention of bid price in the Contractor's Bid Form shall be treated as **Non-Responsive** and shall not be considered for evaluation.
- 13.3 All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.
- 13.4 Contract price shall not be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants during the tenure of the contract.
- 13.5 ***Abnormally low or high rates shall not be taken into consideration and shall be summarily rejected without assigning any reason thereof. Discounts offered after filling up the rates of the items shall not be taken into consideration and rates inserted against each item shall prevail.***

14. Currencies of Bid

- 14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

15. Bid Validity

- 15.1 Bids shall remain valid for a period not less than **180 days** after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period **shall be rejected by the Employer as non-responsive.**
- 15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing

16. Bid Security / Earnest Money to the request will not be required or permitted to modify his bid.

- 16.1 The Bidder shall furnish, as part of his Bid, a Bid security in the amount as specified in Bid information. This bid security shall be in favour of the Employer, and may be in one of the following forms:
- A bank guarantee issued by a nationalized / scheduled bank located in India; or
 - TDR / FDR pledged in favour of the Employer, payable at Kanpur.

16.2 Bank guarantees / TDR / FDR issued as surety for the bid shall be valid for at least 45 days beyond the validity of bids.

16.3 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non-responsive.

16.4 The Bid Security of unsuccessful bidders will be returned smoothly after the agreement is entered with the successful bidder.

16.5 The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid Security may be forfeited

- a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;
- b) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 26 **Correction of Errors** ; or
- c) In the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - (i) Sign the Agreement; or
 - (ii) Furnish the required Performance Security.

17. Alternative Proposals by Bidders

17.1 Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications. **Alternative bid will not be considered.**

18. Format and Signing of Bid

18.1 The Bidder shall prepare one original and one copy of the documents, comprising the bid as described in Clause 12 of *Instruction to Bidders*, **All documents to be submitted should be well readable & in proper format & in spiral binding.**

18.2 The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder, pursuant to Sub-Clauses 4.3. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid. **Each and every signature must be dated. Full Name of the bidder shall be mentioned at least in the Contractor's Bid Form.**

18.3 The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person

or persons signing the bid.

18.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

D. Submission of Bids

19. Sealing and Marking of Bids

19.1 The Bidder shall seal the original and copy of the Bid in separate envelopes, duly marking the envelopes as "**ORIGINAL**" and "**COPY**". These two envelopes (called as inner envelopes) shall then be put inside one outer envelope. Each set of the inner envelopes marked "ORIGINAL" and "COPY" shall contain within separate sealed envelopes marked as "Technical Bid" with additional markings as follows:

Original or Copy, as the case may be

Bid to be opened as per the schedule mentioned in factsheet

The contents of Technical and Financial Bid will be as specified in Clause 12.

19.2 The envelopes containing Technical Bids shall

- a) Be addressed to the Employer
- b) Bear the identifications as indicated in Appendix.

19.3 In addition to the identification required in Sub-Clause 19.1 and 19.2, each of the envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case if it is declared late, pursuant to Clause 21, or the Evaluation Committee declares the Bid as non-responsive pursuant to Clause 23.

19.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

19.5 ***Whereas only online submitted bid will be consider and mandatory. Only Online submitted bid will be open.***

20. Deadline for Submission of the Bids

20.1 Bids must be received by the Employer at the address specified above no later than the date specified in the factsheet. In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received up to the appointed time on the next working day.

20.2 The Employer may extend the deadline for submission of bids by issuing amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

21.1 Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

E. Bid Opening and Evaluation

22. Bid Opening

22.1 The Employer will open all the Bids received (except those received late), in presence of the Bidders or their representatives who choose to attend at time, date and the place specified in IFB in the manner specified in Clause 20 and 22.3. In the event of specified date of Bid opening being declared a holiday on the date of receipt of the bids as specified the bids will be received and opened on the next working day at the same time and venue.

22.2 Bid opening shall be carried out in two stages. Firstly, the envelopes containing "Technical Bid" shall be opened. The amount, form, and validity of the Bid security furnished with each bid will be announced. If the bid security furnished does not conform to the amount and validity period as specified in the Invitation for Bid (ref. Column 4 and paragraph 3), and has not been furnished in the form specified in Clause 16, the remaining technical bid will be returned to the bidder.

"Financial Bids" of those bidders whose technical bids have been determined to be responsive and on evaluation fulfills the qualification criteria shall be opened on a subsequent date, which will be notified to such bidders.

22.3 The minutes of the Bid opening, including the information disclosed to those present in accordance with Clause 22.1, shall be prepared.

22.4 After the opening of the technical bids their evaluation will be taken up with respect to bid security, qualification information and other information furnished in Part I of the bid in pursuant to clause 12, thereafter on fulfilling the criteria laid down in 26.2, a list will be drawn up of the responsive bids whose financial bids are eligible for consideration.

22.5 The Employer shall inform the bidders, whose technical bids are found responsive, of the date, time and place of opening of the financial bids. The bidders so informed, or their representative, may attend the meeting of opening of financial bids.

22.6 At the time of opening of "Financial Bid", the name of the bidders will be announced. The bids of only qualified bidders will be opened. The remaining bids will be returned to the bidders unopened. The responsive Bidders Names, the Bid prices, the total amount of each bid, any discounts, Bid withdrawals, and such others details as the Employer may consider

appropriate, will be announced by the Employer at the opening. Any bid price or discounts, which is not read out recorded will not be taken into account in Bid Evaluation.

- 22.7 The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.

23. Process to Be Confidential

- 23.1 Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

24. Clarification of Bids

- 24.1 To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of the unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Clause 28.

- 24.2 Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

- 24.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

25. Examination of Bids and Determination of Responsiveness

- 25.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding documents.

- 25.2 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the

Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

25.3 If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

26. Correction of Errors

26.1 "Financial Bids", determined to be substantially responsive will be checked by the Employer as follows:

- a) Where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
- b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

26.2 The amount stated in the "Financial Bid" will be corrected by the Employer in accordance with the above procedure and the bid amount adjusted with the concurrence of the Bidder in the following manner:

- a) If the Bid prices increase as a result of this correction, the amount as stated in the bid will be the 'bid price' and the increase will be treated as rebate;
- b) If the Bid price decreases as a result of this correction, the decreased amount as stated in the bid will be the 'bid price'.

26.3 Such adjusted bid price shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 2.11.3).

27. Evaluation and Comparison of Bids

27.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause 25 (**Examination of Bids and Determination of Responsiveness**).

27.2 In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- a) Making appropriate adjustments for any other acceptable variations, deviations; and
- b) Basis for evaluation of financial bids will be the latest PWD Schedule of rates current in the state.

27.3 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other

factors which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Bid evaluation.

27.4 If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 32 of ITB be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

28. Price Preference

There will be no price preference to any bidder.

F. Award of Contract

29. Award Criteria

29.1 Subject to Clause 31, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 4, and (b) qualified in accordance with the provisions of Clause 4.

30. Employer's Right to accept any Bid and to reject any or all Bids

30.1 Notwithstanding Clause 29, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

31. Notification of Award and Signing of Agreement

31.1 The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

31.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with

the provisions of Clause 32 of ITB .

31.3 The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be kept ready for signature of the successful bidder in the office of employer within 7 days following the notification of award along with the Letter of Acceptance.

31.4 Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

32. Performance Security

32.1 Within 7 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to 5% of the Contract price plus additional security for unbalanced Bids in accordance with Clause 27.5 of ITB and Clause 47 of Conditions of Contract:

- A bank guarantee in the form given in Section 7; or
- TDR / FDR pledged in favour of the Employer payable at Kanpur.

32.2 The additional performance security for unbalanced Bids shall be 20% of the difference of cost of the unbalanced items rounding off to the nearest thousand.

32.3 If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued at the Bidder's option, by a Nationalized/Scheduled Indian bank located in India and acceptable to the Employer.

32.4 Failure of the successful bidder to comply with the requirements of sub-clause 32.1 shall constitute a breach of contract, cause for annulment of the award, forfeiture of the bid security and any such other remedy the Employer may take under the contract, and the Employer shall resort to awarding the contract to the next ranked bidder.

33. Advance Payments and Security

Mobilization advance equal to 10% of the contract value shall be released 15 days after receiving and subject to receiving the Bank Guarantee of 110% of the advance amount requested.

34. Fraud and Corruption:

34.1 It is the Employer's policy to require that bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of contracts. In pursuance of this policy, the Employer:

- (a) Defines, for the purposes of this provision, the terms set forth below as follows:

- (i) "Corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - (ii) "Fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
 - (iii) "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
 - (iv) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - (v) "Obstructive practice" is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation,
 - (vi) The Employer shall reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question.
 - (vii) The Employer shall sanction a firm or individual, at any time, by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded contract; and (ii) to be a nominated sub-contractor, consultant, supplier or services provider of an otherwise eligible firm being awarded contract;
- 34.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 28.2 and sub clause 56 of the Conditions of Contract.

SECTION 2:
FORMS OF BID, QUALIFICATION INFORMATION
AND LETTER OF ACCEPTANCE

Table of Forms:

- CONTRACTOR'S BID
- QUALIFICATION INFORMATION
- LETTER OF ACCEPTANCE
- NOTICE TO PROCEED WITH THE WORK
- AGREEMENT FORM

Contractor's Bid

Description of the Works: _____

To,

The Chief Executive Officer,
Kanpur Smart City Limited,
Kanpur.

Dear Sir,

Having examined the bidding documents including addendum, we offer to execute the Works described above in accordance with the Conditions of Contract, Specifications, and Drawings accompanying this Bid.

This Bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

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 also 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 undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.

We agree to abide by this tender, and it shall remain binding upon us.

We hereby confirm that this Bid complies with the Eligibility, Bid Validity and Bid Security required by the Bidding documents.

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

Yours faithfully,

Authorized Signature:

Name & Title of

Signatory:

Full Name of Bidder: (In Capitals only) _____

Address:

Section 3 Qualification Information

The information to be filled in by the Bidder in the following pages will be used for purposes of post qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

1. For Individual Bidders

1.1 Constitution or legal status of Bidder **[Attach copy]**

Place of registration: _____

Principal place of business: _____

Power of attorney of signatory of Bid **[Attach]**

1.2 Total value of Civil Engineering construction work executed and payments received in the last five years** (Attach certificates from Engineer-in-charge not below the rank of Executive Engineer)

| | |
|------------|--|
| 2014-2015 | |
| 2015-2016 | |
| 2016- 2017 | |
| 2017- 2018 | |
| 2018- 2019 | |

1.3.1 Work performed as prime contractor (in the same name) on works of a similar nature over the last five years i.e. 2014-2015 to 2018-2019

| Name of Work | Name of Employer* | Description of Work | Contract No. | Value of Contract (Rs in Lakhs) | Date of Issue of Work Order | Stipulated period of Completion | Actual Date of Completion | Remark |
|--------------|-------------------|---------------------|--------------|---------------------------------|-----------------------------|---------------------------------|---------------------------|--------|
| | | | | | | | | |
| | | | | | | | | |

(Use separate sheet using landscape orientation)

1.3.2 Quantities of work executed as prime contractor (in the same name and style) in the last five years: **

| Year | Name of Work | Name of Employer* | Quantity of Work Performed (Cum) @ | | Horticulture work detail (if any) | Remarks |
|------------|--------------|-------------------|---|--|-----------------------------------|---------|
| | | | Earthwork in excavation, embankment & sub-grade for Water Retaining Structures. | Plain/Reinforced Cement Concrete (PCC/RCC) | | |
| 2014-2015 | | | | | | |
| 2015-2016 | | | | | | |
| 2016- 2017 | | | | | | |
| 2017- 2018 | | | | | | |
| 2018- 2019 | | | | | | |

* Attach certificate(s) from the Engineer(s)-in-Charge

@The item of work for which data is requested should tally with that specified in ITB clause 4.4A(c).

** Immediately preceding the financial year in which bids are received.

1.4 Information on Bid Capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A) Existing commitments and on-going works:

| Name of Work | Place | Contract No & Date | Name & Address of Employer | Value of Contract (Rs in L) | Stipulated period of completion | Value of works remaining to be completed * (Rs in L) | Anticipated Date of completion |
|--------------|-------|--------------------|----------------------------|-----------------------------|---------------------------------|--|--------------------------------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

* Attach certificate(s) from the Engineer(s)-in-Charge.

(Use separate sheet in landscape orientation)

(B) Works for which bids already submitted:

| Name of work | Place | Name & Address of Employer | Estimated Value of Works (Rs in L) | Stipulated period of completion | Date when decision is expected | Remarks, if any |
|--------------|-------|----------------------------|------------------------------------|---------------------------------|--------------------------------|-----------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |

(Use separate sheet in landscape orientation)

1.5 The following items of Contractor's Equipment are essential for carrying out the Works. The Bidder should list all the information requested below. Refer also to Sub Clause 4.3 (e) of the Instructions to Bidders.

| Sl. No. | Equipment Type and Characteristics | Minimum Capacity | Maximum Age of Equipment | Minimum Number Required |
|---------|---|-------------------|--------------------------|---------------------------|
| 1 | Loader cum excavator type JCB / Proclainer | 1 cum bucket size | 5 | 1 |
| 2 | Water tanker | 6 KL | 5 | 1 |
| 3 | Generator | 125 KVA | 5 | 1 |
| 4 | Leveling Instrument | | 5 | 2 |
| 5 | Vibrators with 40mm needles | | | 1 per each site (5 Sites) |
| 6 | Water spraying Pumps for curing, cleaning etc. | | | 1 per each site (5 Sites) |
| 7 | Ready Mix Concrete batching mix plant with capacity 30 cum per hour | | | 1 |

- 1.6** Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to Sub Clause 4.3 (g) and 4.4 (B) (b) of instructions to Bidders and Sub Clause 9.1 of the Conditions of Contract. At least one Project Manager and one Technical Person (Graduate Engineer with three years' experience/Diploma Engineer with five years' experience) for contracts of value more than Rs 50.00 Lakhs would be required. For contracts worth less than Rs 50.00 Lakhs, one Diploma Engineer and one Supervisor with 5 – 10 years' experience in construction works would be required.
- 1.7** Financial reports for the last five years: balance sheets, profit and loss statements, auditors' reports (in case of contracts worth more than Rs 50.00 Lakhs), etc. and for contracts worth less than Rs 50.00 Lakhs, Financial reports for last three years. List them below and attach copies. *(Not mandatory for works up to Rs 10 Lakhs)*
- 1.8** Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List them below and attach copies of support documents *[sample format attached]*.
- 1.9.** Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.
- 1.10** Statement of compliance under the requirements of Sub Clause 3.2 of the instructions to Bidders.
- _____
- _____
- _____
- 1.11** Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 and 4.3 (k)].

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT
FACILITIES –* CLAUSE 4.5 [B] [c] OF ITB**

BANK CERTIFICATE

This is to certify that M/s. is a reputed company with a good financial standing.

If the contract for the work is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. to meet their working capital requirements for executing the above contract.

Name of Bank

Senior Bank Manager

Address of the Bank

LETTER OF ACCEPTANCE
(Letterhead of the Employer)

[date]

To:

[name and address of the Contractor]

Dear Sirs,

This is to notify you that your Bid dated _____ for execution of

the _____

[name of the contract and identification number, as given in the Instructions to Bidders] for the Contract Price of Rupees _____

(_) [amount in words and figures], as corrected and modified in accordance with the Instructions to Bidders¹ is hereby accepted by our Agency.

You are hereby requested to furnish Performance Security, plus additional security for unbalanced bids in terms of ITB clause 27.5, in the form detailed in Para 32.1 of ITB for an amount of Rs. _____ within 7 days of the receipt of this letter of acceptance valid up to 28 days from the date of expiry of Defects Liability Period i.e. up toand sign the contract, failing which action as stated in Para 32.4 of ITB will be taken.

Yours faithfully,

Authorized Signature

Name and Title of Signatory

Name of Agency

Agreement Form

This agreement made the _____ day of _____ 2019, between [name and address of Employer] (Hereinafter called "the Employer)" of the one part and [name and address of Contractor] (Hereinafter called "the Contractor") of the other part.

Whereas the Employer is desirous that the Contractor execute the [name and identification number of Contract] (Hereinafter called "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein, at a contract price of Rs.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.

2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.

3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

4. The following documents shall be deemed to form and be read and construed as part of this

Agreement, viz.:

i) Letter of acceptance;

ii) Notice to proceed with the works;

iii) Contractor's Bid;

iv) Contract Data;

v) Conditions of contract (including Special Conditions of Contract);

vi) Specifications;

vii) Drawings; and

viii) Any other document listed in the Contract Data as forming part of the contract. In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of _____

was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said in the presence of: _____

Binding Signature of Employer _____

Binding Signature of Contractor _____

SECTION 4: CONDITIONS OF CONTRACT

General Conditions of Contract

A. General

1. Definitions

1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

Bill of Quantities means the priced and completed **Bill of Quantities** forming part of the Bid.

Compensation Events are those defined in Clause 39 hereunder.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 48

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

The **KSCL Engineer** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the execution of the works and administering the Contract.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the KSCL Engineer by issuing an extension of time.

Materials are all supplies, including consumables, used by the contractor for incorporation in the Works.

Plant is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

Site Investigation Reports are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the KSCL Engineer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

Temporary Works are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the KSCL Engineer which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The KSCL Engineer will provide instructions clarifying queries about the Conditions of Contract.

2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:

- (1) Agreement
- (2) Letter of Acceptance, notice to proceed with the works
- (3) Contractor's Bid
- (4) Contract Data
- (5) Conditions of Contract including Special Conditions of Contract
- (6) Specifications
- (7) Drawings and
- (8) Any other document listed in the Contract Data as forming part of the Contract.

3. Language and Law

3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. Engineer's Decisions

- 4.1 Except where otherwise specifically stated, the KSCL Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

- 5.1 The KSCL Engineer may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

- 6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

7. Subcontracting

- 7.1 The Contractor may subcontract with the approval of the KSCL Engineer but may not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

8. Other Contractors

- 8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

9. Personnel

- 9.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the KSCL Engineer. The KSCL Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.

9.2 If the KSCL Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

12. Contractor's Risks

12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

13. Insurance

13.1 The bidder shall have a suitable insurance to cover all the risks that are likely to occur from the scope of works and services indicated in this project. The insurance shall cover KSCL, KSCL's Project Management Consultant staff, Users etc. Risks may include but are not limited to a) accidents b) Mal function of equipment/or machines c) casualties d) Safety e) Theft etc.

14. Site Investigation Reports

14.1 The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

15. Queries about the Contract Data

15.1 The KSCL Engineer will clarify queries on the Contract Data.

16. Contractor to Construct the Works

16.1 The Contractor shall construct and install the Works in accordance with the Specification and Drawings, and as per instructions of KSCL Engineer.

17. The Works to Be Completed by the Intended Completion Date

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the KSCL Engineer, and complete them by the Intended Completion Date.

18. Approval by the Engineer

18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the KSCL Engineer, who is to approve them if they comply with the Specifications and Drawings.

18.2 The Contractor shall be responsible for design of Temporary Works.

18.3 The KSCL Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.

18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the KSCL Engineer before their use.

19. Safety

19.1 The Contractor shall be responsible for the safety of all activities on the Site.

20. Discoveries

20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the KSCL Engineer of such discoveries and carry out the KSCL Engineer's instructions for dealing with them.

21. Possession of the Site

21.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

22. Access to the Site

22.1 The Contractor shall allow the KSCL Engineer and any person authorized by the KSCL Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured/fabricated/assembled for the works.

23. Instructions

23.1 The Contractor shall carry out all instructions of the KSCL Engineer which comply with the applicable laws where the Site is located.

24. Dispute Redressal System

Dispute Resolution. If any difference or dispute arises between the KSCL and the Agency in connection with the validity, interpretation, implementation or alleged breach of any provision of this Agreement, any such dispute shall be referred to Executive Director, KSCL

(a) The arbitration proceedings shall be conducted in accordance with the (Indian) Arbitration & Conciliation Act, 1996 & amendments thereof.

(b) The place of arbitration shall be Kanpur.

(c) The arbitrator's award shall be substantiated in writing and binding on the parties.

(d) The proceedings of arbitration shall be conducted in English language.

(e) The arbitration proceedings shall be completed within a period of 180 days from the date of reference of the dispute to arbitration.

25. Governing Law.

This Agreement shall be interpreted in accordance with and governed by the substantive and procedural laws of India and the parties hereby consent to the exclusive jurisdiction of Courts and/or Forums situated at Jabalpur, India only.

B. Time Control

26. Program

- 26.1 Within the time stated in the Contract Data the Contractor shall submit to the KSCL Engineer for approval a Program including Environmental Management Plan showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.
- 26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 26.3 The Contractor shall submit to the KSCL Engineer, for approval, an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the KSCL Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
- 26.4 The KSCL Engineer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the KSCL Engineer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

27. Extension of the Intended Completion Date

- 27.1 The KSCL Engineer in consultation with the Employer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.
- 27.2 The KSCL Engineer in consultation with the Employer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the KSCL Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Delays Ordered by the Engineer

28.1 The KSCL Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

29. Management Meetings

29.1 Either the KSCL Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

29.2 The KSCL Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the KSCL Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

C. Quality Control

30. Identifying Defects

30.1 The KSCL Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The KSCL Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the KSCL Engineer considers may have a Defect.

30.2 The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the KSCL Engineer and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the KSCL Engineer's responsibility as defined in the Contract Agreement.

31. Tests

31.1 For Carrying out mandatory tests as prescribed in the specification. The Contractor shall establish field laboratory at the location decided by Engineer or at NABL accredited laboratories. The field laboratory will have minimum equipment as specified in the Contract Data.

The contractor shall be solely responsible for:

- a. Carrying out the mandatory tests prescribed in the Specifications, and
- b. For the correctness of the test results, whether preformed in his laboratory or elsewhere.

- 31.2 Manufacturer test certificates should be obtained for all the construction materials to be used like cement, steel, aggregates, structural steel, pipes etc.
- 31.3 The mandatory tests to be carried out in the field / NABL accredited laboratories during execution of contract are listed in Section-5.
- 31.4 If the KSCL Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

32. Correction of Defects

- 32.1 The KSCL Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 32.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the KSCL Engineer's notice.

33. Uncorrected Defects

- 33.1 If the Contractor has not corrected a Defect within the time specified in the KSCL Engineer's notice, the KSCL Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

Note: Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits at reduced rates, KSCL Engineer will certify payments to Contractor accordingly.

D. Cost Control

34. Bill of Quantities

- 34.1 Attached in Section – 5 of this Document. The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning, maintaining works, and lump sum figures for yearly routine maintenance for each of the five years separately, to be done by the Contractor.
- 34.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item for the construction of roads. The payment to the Contractor is performance based for routine maintenance of roads.

35. Changes in the Quantities

- 35.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1% of Initial Contract Price, the KSCL Engineer in consultation with the Employer shall adjust the rate to allow for the change.
- 35.2 Unless the Contractor and the Employer along with KSCL Engineer agree to the contrary the total value of all Change of Scope orders shall not exceed 10 (ten) per cent of the Contract Price.
- 35.3 If requested by the KSCL Engineer, the Contractor shall provide the KSCL Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.
- 35.4 All Variations shall be included in updated Programs produced by the Contractor.

36. Payments for Variations

- 36.1 The Contractor shall provide the KSCL Engineer with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the KSCL Engineer. The KSCL Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the KSCL Engineer/Employer and before the Variation is ordered.
- 36.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the KSCL Engineer/Employer, the quantity of work above the limit stated in Sub Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in form of new rates for the relevant items of work.
- 36.3 If the Contractor's quotation is unreasonable (or if the contractor fails to provide the KSCL Engineer with a quotation within a reasonable time specified by the KSCL Engineer in accordance with Clause 40.1), the KSCL Engineer may order the Variation and make a change to the Contract Price which shall be based on KSCL Engineer's own forecast in consultation with the Employer of the effects of the Variation on the Contractor's costs.

36.4 If the KSCL Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

36.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

37. Cash flow forecasts

37.1 When the Program is updated, the contractor is to provide the KSCL Engineer with an updated cash flow forecast.

38. Milestone Schedule & Payment Certificates

MILESTONE SCHEDULE

| Sl. No. | Milestone Works Description | Tenure & Targets |
|---------|--|---|
| 1 | a) UG-Tanks (6-Nos.) Excavation Works at Five Locations as per BOQ / drawings. b) PCC works for above as per BOQ/drawings. c) Concreting works of Rafts for all the above tanks as per BOQ/drawings. All the above Works measurement is as per Measurement Books (MB). | Physical Progress should be equal to Financial Equivalent of 30% of the Contract Value within 90 Days after Start date of Contract. Work measurement shall be as per Measurement Books (MB).* Completion certificates must be submitted for all the works mentioned in this milestone (Column 2) or as directed by Engineer-in-Charge so that the required physical progress is achieved as per this milestone.** |
| 2 | a) Dismantling & Demolishing Works on Existing Paving at Dhobi Ghat Site as per BOQ/drawings. b) Concreting for paving at Dhobi Ghat site as per BOQ/drawings. c) Shuttering works for Walls of UG-Tanks (6-Nos.) as per BOQ/drawings. d) Concreting for walls of UG-Tanks (6-Nos.) as per BOQ/drawings. All the above Works measurement is as per Measurement Books (MB). | Physical Progress should be equal to Financial Equivalent of 35% of the Contract Value within 180 Days after Start date of Contract. Work measurement shall be as per Measurement Books (MB).* Completion certificates must be submitted for all the works mentioned in this milestone (Column 2) or as directed by Engineer-in-Charge so that the required physical progress is achieved as per this milestone.** |
| 3 | a) Shuttering and Casting of Top Slabs, Beams for UG-Tanks (6-Nos.) as per BOQ/drawings. b) Fixing of Rain Water Pipes at Various Buildings c) Finishing Works at Dhobi Ghat Site. d) Finishing Works at Various other locations. UG-Tanks (5Nos.) e) Electromechanical Works at UG-Tanks (6-Nos.) All the above Works measurement is as per Measurement Books (MB). | Physical Progress should be equal to Financial Equivalent of 35% of the Contract Value within 270 Days after Start date of Contract. Work measurement shall be as per Measurement Books (MB).* Completion certificates must be submitted for all the works mentioned in this milestone (Column 2) or as directed by Engineer-in-Charge so that the required physical progress is achieved as per this milestone.** |

| Sl. No. | Milestone Works Description | Tenure & Targets |
|---------|---|---|
| 4 | At the End of defect liability period (1 Year) after complete Handover. Start Date of Defect Liability Period shall be after completion of all the works Specified in Milestones 1, 2 & 3 above. | Half the Cumulative Amount Retained in the monthly RA Bill Payments less adjustments, will be paid at the completion of works and Half at the end of satisfactory completion of Defect Liability Period. |

*** Contractor shall submit the RA Bill of every month in the first week of succeeding month on actual work done along with certified Measurement Book (MB), Request for Inspection (RFI) and Test Reports, if any.**

**** Liquidity damages shall be levied for Delays beyond the Time Period Mentioned in Milestones.**

Payment Certificates

38.1 The Contractor shall submit to the KSCL Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously along with details of measurement of the quantity of works executed in Measurement Books as approved by the KSCL Engineer.

38.2 Deleted

38.3 The value of work executed shall be determined by the KSCL Engineer after due check measurement of the quantities claimed as executed by the contractor.

38.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

38.5 The value of work executed shall include the valuation of Variations and Compensation Events.

38.6 The KSCL Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

39. Payments

39.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the KSCL Engineer within 28 days of the date of each certificate.

39.2 Deleted

39.3 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

40. Compensation Events

40.1 The following are Compensation Events unless they are caused by the Contractor:

- (a) The KSCL Engineer orders a delay or delays exceeding a total of 30 days.
- (b) The KSCL Engineer instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects as clause 31
- (c) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- (d) The KSCL Engineer gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (e) Other contractors, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.

40.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Intended Completion Date shall be extended. The KSCL Engineer shall decide whether and by how much the Intended Completion Date shall be extended.

40.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it is to be assessed by the KSCL Engineer and the Intended Completion Date shall be extended accordingly. If the Contractor's forecast is deemed unreasonable, the KSCL Engineer shall adjust the Intended Completion Date based on KSCL Engineer's own forecast. The KSCL Engineer will assume that the Contractor will react competently and promptly to the event.

40.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the KSCL Engineer.

41. Tax

41.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

42. Currencies

42.1 All payments shall be made in Indian Rupees.

43. Retention

43.1 The Employer shall retain from each monthly payment due to the Contractor the proportion of 4% of the value of the Monthly Payment Certificate submitted by the Contractor as stated in the Contract Data until Completion of the whole of the Works.

43.2 On Completion of the whole of the Works the amount retained is repaid to the Contractor when the Defects Liability Period has passed to the 9% of the Contract Value and the KSCL Engineer has certified that all Defects notified by the KSCL Engineer to the Contractor before the end of this period have been corrected. Subsequently balance amounts are repaid to the extent of 9% of the Contract Value at the end of each year of Annual Maintenance Contract and the KSCL Engineer has certified that all Maintenance works notified by the KSCL Engineer to the Contractor have been satisfactorily completed.

43.3 On completion of the whole works, the contractor may substitute retention money (*balance half*) with an "on demand" Bank guarantee.

44. Liquidated Damages

44.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the

Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

44.2 If the Intended Completion Date is extended after liquidated damages have been paid, the KSCL Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment calculated from the date of payment to the date of repayment at the rates specified in Sub Clause 43.1.

45. Advance Payment

45.1 The Employer shall make an interest bearing (@ PLR rate) Mobilization advance equal to 10 % of the contract value exclusive for mobilization expenses. The first instalment 5% shall be released 15 days after receiving and subject to receiving the Bank Guarantee of amount 110% of the requested amount:

45.2 The second instalment would be released after submission of receipt certificate by the Contractor for the first 5% advance already paid earlier.

45.3 **Secured Advance:** Deleted.

46. Securities

46.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion. The performance security of a joint venture shall be in the name of the joint venture.

47. Cost of Repairs

47.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the

Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

48. Completion

48.1 The Contractor shall request the KSCL Engineer to issue a Certificate of Completion of the Works and the KSCL Engineer will do so upon deciding that the Work is completed.

49. Taking Over

49.1 The Employer shall take over the Site and the Works within seven days of the KSCL Engineer issuing a certificate of Completion.

50. Final Account

50.1 The Contractor shall supply to the KSCL Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The KSCL Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the KSCL Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the KSCL Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.

51. Operating and Maintenance Manuals

51.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.

51.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the KSCL Engineer's approval, the KSCL Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

52. Termination

52.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

52.2 Fundamental breaches of Contract include, but shall not be limited to the following:

(a) The Contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the KSCL Engineer;

(b) The KSCL Engineer instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 28 days;

(c) The Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

(d) A payment certified by the KSCL Engineer is not paid by the Employer to the Contractor within 56 days of the date of the KSCL Engineer's certificate;

(e) The KSCL Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the KSCL Engineer;

(f) The Contractor does not maintain a security which is required;

(g) The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and

(h) If the Contractor, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 57, in competing for or in executing the Contract.

52.3 When either party to the Contract gives notice of a breach of contract to the KSCL Engineer for a cause other than those listed under Sub Clause 53.2 above, the KSCL Engineer shall decide whether the breach is fundamental or not.

52.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

52.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

53. Payment upon Termination

- 53.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the KSCL Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.
- 53.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the KSCL Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

54. Property

- 54.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

55. Release from Performance

- 55.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the KSCL Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

56. Fraud & Corruption

- 56.1 If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from

the Site, and the provisions of Clause 53 shall apply. Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the works, then that employee shall be removed in accordance with Clause 9 (Personnel). For the purposes of this Sub-Clause:

(i) "Corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party*;

(ii) "Fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation**;

(iii) "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party#;

(iv) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party\$;

(v) "Obstructive practice" is

(aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of KSCL's inspection rights.

** For the purpose of this sub-paragraph, "another party" refers to a public official acting in relation to the procurement process or contract execution. In this context, "public official" includes KSCL staff and employees of other organizations taking or reviewing procurement decisions.*

*** For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "Obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.*

For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

\$ For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

F. Special Conditions of Contract

57.LABOUR:

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the KSCL Engineer, deliver to the KSCL Engineer a return in detail, in such form and at such intervals as the KSCL Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the KSCL Engineer may require.

58.COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of

the Contractor, the KSCL Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/KSCL Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK

- a) Workmen Compensation Act 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952 (*since amended*): The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

- f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, and Runways are scheduled employments.
- g) Payment of Wages Act 1936: It lies down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above up to Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and gets the same certified by the designated Authority.
- l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

- m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter- state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home up to the establishment and back, etc.
- o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) Factories Act 1948: The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

59. SUB-CONTRACTING (GCC Clause 7)

Please add the following as Clause 7.2:

The contractor shall not be required to obtain any consent from the employer for:

- a) The sub-contracting of any part of the Works for which the Sub-contractor is named in the contract;
- b) The provision of labour; and
- c) The purchase of materials which are in accordance with the standards specified in the Contract.

Beyond this if the contractor proposes sub-contracting any part of the work during execution of works, because of some unforeseen circumstances to enable him to complete the work as per terms of the contract; the KSCL Engineer will consider the following before according approval:

- The contractor shall not sub-contract the whole of the Works. The limit for sub- contracting shall be 25% of the Contract price. Proposal for sub-contracting shall contain detailed experience, equipment and personnel for sub-contractor along with items and quantities to be sub contracted.
- The contractor shall not sub-contract any part of the Work without prior consent of the KSCL Engineer. Any such consent shall not relieve the contractor from any liability or obligations under the contract and he shall be responsible for the acts, defaults and neglects of any subcontractor, his agents or workmen as fully as if they were the acts, defaults or neglects of the contractor, his agents or workmen.
- The KSCL Engineer should satisfy whether (a) the circumstances warrant such sub- contracting; and (b) the sub-contractors so proposed for the Work possess the experience, qualifications and equipment necessary for the job proposed to be entrusted to them in proportion to the quantum of work to be sub-contracted.
- If payments are proposed to be made directly to that sub-contractor, this should be subject to specific authorization by the prime contractor so that this arrangement does not alter the contractor's liability or obligations under the contract.

Note:

1. All bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 20 percent of the Bid Price. For each such proposal the qualification and the experience of the identified sub-contractor in the relevant field should be furnished along with the bid to enable the employer to satisfy himself about their qualifications before agreeing for such subcontracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract.

2. However, [a] sub-contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for subcontracting is not acceptable. [b] In any case, proposal for subcontracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.

3. Assignment of the contract may be acceptable only under exceptional circumstances such as insolvencies/liquidation or merger of companies etc.

60. ARBITRATION

The procedure for arbitration will be as follows:

- a) In case of Dispute or difference arising between the Employer and a domestic contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996.
- b) Arbitration proceedings shall be held at Kanpur, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- c) The disputes or differences arising shall be referred to a Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority, namely the Indian Council of Arbitration.
- d) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the owners shall not be withheld, unless they are the subject matter of the arbitration proceedings.

61. PROTECTION OF ENVIRONMENT:

Add the following as GCC Clause 16.2:

The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

Salient features of some of the major laws that are applicable are given below:

The Water (Prevention and Control of Pollution) Act, 1974, this provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water.

'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

The Air (Prevention and Control of Pollution) Act, 1981, this provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

The Environment (Protection) Act, 1986. This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the interrelationship which exists among and between water, air and land,

and human beings, other living creatures, plants, micro-organism and property.

The Public Liability Insurance Act, 1991, This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

62. LIQUIDATED DAMAGES:

Sub-clause 44.1: Please substitute the last sentence with the following:

“Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the contractor from his obligation to complete the work as per agreed construction program and milestones or from any other of the contractor's obligations and liabilities under the contract.”

63. PRIORITY OF DOCUMENTS:

Sub-clause 2.3: Please substitute sub paragraphs (a) to (j) with the following:

- a. Agreement,
- b. the Letter of Acceptance,
- c. Contractor's Bid,
- d. the addenda (if any)
- e. Special Conditions of Contract
- f. Contact Data;
- g. General Conditions of Contract
- h. Specifications
- i. Part-II-Supplementary Technical Specifications including additional Technical Specifications.
- j. Part-I General Specifications
- k. Part-III- Environmental Management Plan
- l. Drawings
- m. Any other documents forming part of the Contract.

64. Safety & Welfare Provisions for labour to be employed by the Contractor

All necessary personal safety equipment as considered adequate by the KSCL Engineer shall be available for use of persons employed on

the Site and maintained in a condition suitable for immediate use; and the Contractor shall take adequate steps to ensure proper use of such equipment by those concerned.

64.1. Safety Provisions:

The Contractor shall comply with all the precautions as required for the safety of the workmen.

- i. All workmen at site shall be provided with safety helmets and yellow/orange jackets. Workmen required on site during night hours shall be provided with fluorescent yellow jackets with reflective lopes.
- ii. Workers employed on mixing asphaltic materials, cement, lime mortars, concrete etc. shall be provided with protective footwear, protective goggles.
- iii. Those engaged in handling any material, which is injurious to the eyes, shall be provided with protective goggles protective goggles.
- iv. Those engaged in welding works shall be provided with welder's protective eye- shield.
- v. Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- vi. Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except for such short period work as can be done safely from ladders. When a ladder is used, an extra labourer shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable foot-holds and hand-holds shall be provided on the ladder, which shall be given an inclination not steeper than 1/4 to 1.
- vii. Scaffolding or staging more than 3.25 meters above the ground or floor, swung or suspended from an overhead support or erected with stationary support, shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the support or structure.

- viii. Working platforms, gangways, and stairways shall be so constructed that they do not sag unduly or unequally, and if the height of any platform or gangway or stairway is more than 3.25 metres above ground level or floor level, it shall have closely spaced boards, have adequate width and be suitably provided with guard rails as described in (vii) above.
- ix. Every opening in the floor of a structure or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of one metre.
- x. Safe means of access and egress shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 metres in length. The width between side rails in a rung ladder shall in no case be less than 30 cm for ladders up to and including 3 metres in length. For longer ladders the width shall be increased at least 6 mm for each additional 30 cm of length. Spacing of steps shall be uniform and shall not exceed 30 cm.
- xi. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The Contractor shall provide all necessary fencing and lights to protect the public from accidents and shall be bound to bear the expenses of defending every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.
- xii. Excavation and Trenching: All trenches, 1.5 metres or more in depth shall at all times be supplied with at least one ladder for each 20 metres in length or fraction thereof. Ladders shall be extended from the bottom of the trench to at least 1 metre above the surface of the ground. The sides of a trench, which is 1.5 metres or more in depth shall be stepped back to provide a suitable slope, or be securely held by timber bracing so as to avoid the danger of side collapse. Excavated

material shall not be placed within 1.5 metres of the edge of any trench or half the depth of the trench, whichever is more. Excavation shall be made from the top to the bottom. Under no circumstances shall undermining or undercutting be done.

- xiii. When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that manhole covers are open and manholes are ventilated at least for an hour before workers are allowed to go into them. Manholes so open shall be cordoned off with suitable railing and provide warning signals or boards to prevent accidents to the public.
- xiv. Demolition: Before any demolition work is commenced and also during the process of the work:
 - a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - b) No electric cable or apparatus, which is liable to be a source of danger other than a cable or apparatus used by operators, shall remain electrically charged:
 - c) All practical steps shall be taken to prevent danger to persons employed by the Employer, from risk of fire or explosion, or flooding. No floor, roof or other part of a building shall be so overloaded with debris or materials as to render it unsafe.
- xv. When work is performed near any place where there is risk of drowning all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
- xvi. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following:
 - (a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good working order be regularly inspected and properly maintained.
 - (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from defects.
 - (c) For every hoisting machine and every chain hook, shackle, swivel and pulley block used in hoisting, lowering or as means of suspension, safe working load shall be ascertained by adequate

means. Every hoisting machine and all gear referred to above shall be plainly marked with safe working load. In case of a hoisting machine or a variable safe working load, each safe working load and conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to in the paragraph above shall be loaded beyond safe working load except for the purpose of testing

- xvii. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards; hoisting appliances shall be provided with such means as will reduce the risk of accident during descent of load to the minimum. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised, insulating mats, working apparel such as gloves, sleeves and boots, as may be necessary, shall be provided. Workers shall not wear any rings, watches and carry keys or other material which are good conductors of electricity.

- xviii. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places of work.

- xix. These safety provisions shall be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work location. Persons responsible for ensuring compliance with the Safety Code shall be named therein by the Contractor.

- xx. To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the KSCL Engineer or his Representative.

- xxi. Notwithstanding anything contained in condition (i) to (xv) above, the Contractor shall remain liable to comply with the provisions of all acts, rules, regulations and bylaws for the time being in force in India and applicable in this matter. The Contractor shall be responsible for observance, by his sub-contractors, of the foregoing provisions.

64.2. Labour Welfare Provisions:

i. First Aid:

At every workplace, there shall be maintained in readily accessible place first aid appliances including an adequate supply of sterilised dressings and sterilised cotton wool as prescribed in the Factory Rules of the State in which the work is carried on. The appliances shall be kept in good order and, in large work places; they shall be placed under the charge of a responsible person who shall be readily available during working hours.

ii. Accommodation for Labour:

The Contractor shall during the progress of the work provide, erect and maintain necessary temporary living accommodation and ancillary facilities for labour at his own expense to standards and scales approved by the KSCL Engineer.

iii. Drinking Water:

In every workplace, there shall be provided and maintained at suitable places easily accessible to labour, a sufficient supply of cold water fit for drinking.

Where drinking water is obtained from an intermittent public water supply each workplace shall be provided with storage tanks where drinking water shall be stored.

Every water supply storage shall be at a distance of not less than 15 metres from any latrine, drain or other source of pollution. Where water has to be drawn from an existing well, which is within such proximity of any latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door, which shall be dust proof and waterproof. A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and opened only for cleaning or inspection, which shall be done at least once a month.

iv. Washing and Bathing Places:

Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept in clean and drained condition.

v. Scale of Accommodation in Latrines and Urinals:

There shall be provided within the precincts of every workplace, latrines and urinals in an accessible place, and the accommodation, separately for each for these, shall not be less than at the following scale:

No. of Seats

- (a) Where number of persons does not exceed 50 - 2
- (b) Where number of persons exceed 50 but does not exceed 100 - 3
- (c) For additional persons per 100 or part thereof - 3

In particular cases, the KSCL Engineer shall have the power to increase the requirement, wherever necessary.

vi. Latrines and Urinals:

Except in work places provided with water-flushed latrines connected with a water borne sewage system, all latrines shall be provided with dry-earth system (receptacles) which shall be cleaned at least four times daily and at least twice during working hours and kept in a strictly sanitary condition. Receptacles shall be tarred inside and outside at least once a year.

If women are employed, separate latrines and urinals, screened from those for men and marked in the vernacular in conspicuous letters "For women only", shall be provided. Those for men shall be similarly marked "For men only". A poster showing the figure of a man and a woman shall also be exhibited at the entrance to latrines for each sex. There shall be adequate supply of water, close to latrines and urinals.

vii. Construction of Latrines:

Inside walls shall be constructed of masonry or other non-absorbent material and shall be cement-washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for the purpose and kept available for inspection. Latrines shall have at least a thatched roof.

viii. Disposal of Excreta:

Unless otherwise arranged for by the local sanitary authority, arrangement for proper disposal of excreta by incineration at the workplace shall be made by means of a suitable incinerator approved by the local medical health and municipal or

cantonment authorities. Alternatively, excreta may be disposed of by putting a layer of night soils at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn into manure).

The Contractor shall, at his own expense, carry out all instructions issued to him by the KSCL Engineer to effect proper disposal of soil and other conservancy work in respect of Contractor's work-purpose or employees on the site. The Contractor shall be responsible for payment of any charges, which may be levied by municipal or cantonment authority for execution of such work on his behalf.

ix. Provisions of shelters during rest:

At every workplace, there shall be provided, free of cost, four suitable sheds, two for meals and two others for rest, separately for use of men and women labour. The height of each shelter shall not be less than 3 metres from floor level to lowest part of roof. Sheds shall be kept clean and the space provided shall be on the basis of at least 0.5 sq.m. Per head.

x. Crèches:

At a place where women are ordinarily employed, there shall be provided at least one hut for use of children under the age of 6 years belonging to such women. Huts shall not be constructed to a standard lower than that of thatched roof, mud floor and wall with wooden planks spread over mud floor and covered with matting.

Huts shall be provided with suitable and sufficient openings, for light and ventilation. There shall be adequate provision of sweepers to keep the places clean. There shall be a maidservant in attendance.

Sanitary utensils shall be provided to the satisfaction of local medical, health a municipal or cantonment authorities. Use of huts shall be restricted to children, their attendants and mothers of children.

xi. Canteen:

A cooked food canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered necessary.

xii. Planning, Setting and erection of above mentioned structures:

Planning, setting and erection of the above mentioned structures shall be approved by the KSCL Engineer or his Representative and the whole of such temporary accommodation shall at all times during the progress of the Works be kept tidy and in a clean and sanitary condition to the satisfaction of the KSCL Engineer or his representative and at the Contractor's expense. The Contractor shall conform generally to sanitary requirements of local medical, health and municipal or cantonment authorities and at all times adopt such precautions as may be necessary to prevent soil pollution of the Site.

On completion of the Works, the whole of such temporary structures shall be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the whole of the site left clean and tidy, at the Contractor's expense, to the entire satisfaction of the KSCL Engineer.

xiii. Anti-malarial precautions:

The Contractor shall, at his own expense, conform to all anti-malarial instructions given to him by the KSCL Engineer, including filling up any borrow pits which may have been dug by him.

xiv. Awareness and Education of HIV/AIDS

The contractor shall provide/carryout HIV/AIDS awareness and training Program to its labour and management, at least twice per year during the construction period.

xv. Child Labour Prohibition

The contractor shall not employ Child Labour for any works or in any manner under the Contract at any time. In the event that the Contractor uses child labour, the Employer shall terminate the Contract.

xvi. Amendments:

The Employer may, from time to time, add to, or amend these Rules and issue such directions as it may be considered necessary for the proper implementation of these Rules or for the purpose of removing any difficulty, which may arise in the administration thereof.

SECTION 4: CONTRACT DATA

CONTRACT DATA

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

The following documents are also part of the Contract:

Clause Reference with respect to Section 3

The **Employer** is:

Name: **Chief Executive Officer, Kanpur Smart City Limited** [1.1]

Address: **Nagar Nigam Mukhyalaya, Motijheel, Kanpur - 208002**

The Site is located at **Kanpur** [1.1]

The **Engineer** is [1.1]

Name: Shall be named later

Address: **Nagar Nigam Mukhyalaya, Motijheel, Kanpur - 208002**

Name of Authorized Representative: **The Nodal Officer, KSCL**

The Works consist of; Building Works, Other Items; and other items of works as may be required to be carried out for completing the works in accordance with the drawings and provisions of the Contract to ensure safety. (1.1)

The Start Date shall be the date of issue of notice to proceed with the work. [1.1]

The following documents also form part of the Contract: [2.3]

| Document | Description of the document |
|--------------------------|--|
| Construction Methodology | Construction methodology in bid amended as per comments of employer given in letter of acceptance. |

The language of the Contract documents is English [3]

The law which applies to the Contract is the laws of Union of India and Govt. of Uttar Pradesh [3.1]

Schedule of other contractors Nil [8.1]

Site investigation reports- As indicated in the drawings [14]

The intended completion date for the whole of the works shall be **270 days** from the date of commencement.

The Site Possession Dates shall be within seven days from the date of issue of Notice to Proceed with Work: [21]

The Employer may require suggesting the contractor to submit revised program

in accordance with an agreeable alternate schedule of handing over of site for which no compensation events hold good.

The amount to be withheld for late submission of an updated program shall be Rs. 5,000=00 per day. [26]

The Defects Liability Period is **365 days** from the date of certification of completion of works. (Where sectional completion certificate is issued this will apply from those dates for those sections). [1.1, 31]

The currency of the Contract is Indian Rupees. [42]

The proportion of payments retained (retention money) shall be 5% from each bill subject to a maximum of 5 % of final contract price [44]

Amount of the liquidated damages per day for non-completion of the section/total work as per the completion date specified in 1.1 are as under: [45]

For: Milestone -I: Rs.500 per day

For: Milestone -II: Rs.800 per day

For: Milestone -III: Rs.1000 per day

Milestone Schedule is mentioned in Clause No. 38.

The maximum amount of liquidated damages for the whole of the works is ten percent of final contract price.

The amounts of the advance payment are: Up to 10% of the contract price subject to a Bank Guarantee of 110% of the advance amount sought. [46]

The Securities shall be for the following minimum amounts equivalent as a percentage of the Contract Price:

Performance Security for 5 per cent of contract price plus 20% of the unbalanced bid amount as additional security for unbalanced bids [*in terms of ITB Clause 27.5*].

The standard form of Performance Security acceptable to the Employer shall be an unconditional Bank Guarantee of the type as presented in Section 7 of the Bidding Documents or Call Deposit / Term Deposit in favour of the Employer, payable at Kanpur

The following events shall also be fundamental breach of contract:

1. The Contractor has contravened Sub-clause 7 of GCC read with SCC and Clause 9.0 of GCC
2. The contractor does not adhere to the agreed construction program and agreed environmental management plan and also fails to take satisfactory remedial action as per agreements reached in the management meetings (Clause 27) for a period of 30 days.
3. The contractor fails to carry out of the instructions of KSCL Engineer within a reasonable time determined by the KSCL Engineer in accordance with GCC Clause 16.1 and 23.1.

The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be **20** percent.

SECTION 5: SCOPE OF WORK, TECHNICAL SPECIFICATIONS & BOQ

5.1 Scope of Work:

5.1.1 Roof-Top Rain Water Harvesting

There are a no. of buildings including multistoried apartments, Institutional buildings, private bungalows and about 12900 small or medium sized houses in ABD area contributing to a huge Roof Top Rain Water Harvesting Potential. As such the local authority KDA has made it mandatory for roof area buildings of 300 sq.m or more to adopt Rain Water Harvesting measures within their building premises. But for 12900 small or medium sized houses having less than 300 sq.m roof areas it is difficult to implement rain water harvesting measures within their premises because of space constraints. Hence a suitable method is to collect all the rain water from these 12900 houses at one or more central downstream locations in closed drains and treat this water at these locations before use or recharging of ground water. However this involves huge investment and a large extent of land is required. Hence we have concentrated on providing Rain Water Harvesting systems to the following Govt. buildings within ABD area as these departments have procedural or financial difficulties in implementing RWH measures of their own. All the above buildings or institutions are offices where employees come to work for about 8-10 hours. For their ablution requirements while their working in the offices precious potable water is utilized. For these needs potable water is not required and rain water conserved and stored can be used for above needs after physical and partial chemical / biological treatment within the respective office building premises.

| List of Buildings for Installation of Roof-Top Rain Water Harvesting Components | | | | | |
|--|-------------------------------|----------------------|---------------------|-----------------|-----------------------------|
| Sl. No. | Building Name | Building Type | Old Ward No. | Locality | Type of Storage Tank |
| 1 | Income Tax Office | Govt. | 59 | Civil Lines | Type-1 |
| 2 | Kanpur Head Post Office | Govt. | 106 | Chowk Sarrafa | Type-2 |
| 3 | Chunniganj Bus Stand | Bus-Station | 5 | Chunniganj | Type-1 |
| 4 | Kanpur Nagar Nigam Mukhyalaya | Govt. | 37* | Harsh Nagar | Type-3 (2 Nos.) |
| *New Ward No. | | | | TOTAL | 5 |
| There may be addition of Buildings after award of Contract. The additional Works are to be carried out at the same rates as agreed in the present contract. | | | | | |

5.1.2 Waste water recycling in Dhobi Ghat near Bhairon Ghat in ABD area

There is common place near Bhairon Ghat in Khalasi Line Ward of Kanpur City where the washer-men wash the clothes of their customers. It is large expanse of open area of about 4500 Sq.m. These washer-men are supplied with about 25 Kilo Liters per day of Raw Water from the river Ganga for their daily operations. The waste water resulting from the washing of clothes is going down the drains every day. Hence we have devised a scheme to tap this waste water and recycle it after physical and partial chemical / biological treatment within the Dhobi Ghat premises.



Also we have a devised a scheme to harvest Rain Water in the same system, filter it and Store it for use in the washing of the clothes. Initially till the system stabilizes and the treatment results are encouraging Raw Water from the river Ganga will be fed into the system and treated before use. Thereafter the used water from washing of clothes will be treated and recycled.

Extensive revamping of the entire Dhobi Ghat is envisaged by providing RCC pavement over entire area of 75m x 60m = 4500 sq.m so that waste water does not ingress into the ground and pollute the Ground water. Washing areas and entire perimeter of the open area will be provided with a network of open Surface drains leading to the Waste water recycling tank so that waste water from washing of clothes does not escape into the street drains as is happening now.

In addition to the above measures new sheds for relaxing and sheds for indoor drying of cloths during wet weather, toilets and baths will be provided. Also near the washing areas suitable sun-shades will be erected.

5.2 Technical Specifications:

The following Specifications, codes and standards, as well as their addenda, updating and reference standards shall be followed.

1. IRC & BIS Codes and Standard Practices
2. UP-PWD Specifications.
3. CPWD Specifications.
4. Technical Specifications mentioned in any part of this document.

The provisions of general / special conditions of contract, those specified in any portion of this bid document, as well as execution drawings and notes, or other specifications issued in writing by the Employer shall form part of the technical specifications of this work.

5.3 Tests:

The following is the list of mandatory tests for Civil / Structural Works. The list is indicative but not exhaustive.

| Sl. No. | Test Report Title | Ref. IS Code |
|---------|--|--------------------------|
| 1 | Test for Cement | IS: 1489 IS: 8112 |
| 2 | Test for Coarse Aggregate | IS: 383 IS: 2386 |
| 3 | Test for fine Aggregate | IS: 383 IS: 2386 |
| 4 | Test for water (used for construction) | IS: 3205 IRC: 21 |
| 5 | Test Compressive Strength of Concrete | IS: 456 IS: 516 |
| 6 | Concrete Slump Test | IS: 1199 |
| 7 | Tests for Steel for Reinforcement | IS: 1786 |
| 8 | Tests for Structural Steel | IS: 2062 |
| 9 | Guidelines for Concrete Mix Design Proportioning | IS: 10262 |
| 10 | Test for Silt content of fine aggregate | IS: 383(III) |
| 11 | Code of practice: Concrete structures for Storage of Liquids | IS: 3370 Parts I - IV |

Conceptual & Schematic Diagrams are annexed at the end. Construction Drawings will be supplied to the successful bidder upon award of contract.

BILL OF QUANTITIES

| SUMMARY OF RAIN WATER HARVESTING & WASTE WATER RECYCLING WORKS | | | |
|---|-------------------------------|---------------------------------------|-----------------------------|
| Sl. No. | Building Name | System Type | No. of Storage Tanks |
| 1 | Income Tax Office | Type-1 | 1 |
| 2 | Kanpur Head Post Office | Type-2 | 1 |
| 3 | Chunniganj Bus Stand | Type-1 | 1 |
| 4 | Kanpur Nagar Nigam Mukhyalaya | Type-3 | 2 |
| 5 | Dhobi Ghat Near Bhairon Ghat | Waste Water Recycling System (Type-4) | 1 |
| | | | 6 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-1

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|--|--|------|----------|
| 1.01 | SOR 252 | Earth work in excavation in trenches for foundations in soil mixed with moorum, shingle, kankar etc., including dismantling of existing paver block or Cement Concrete footpaths, existing drains, ducts and removal of debris requiring the use of special T&P such as pickaxes, sabbals etc including lift upto 1.50m and staking of serviceable materials and dressing of sides and ramming of bottom and disposal of surplus excavated earth and debris as directed by Engineer-in-charge within a lead of 50 m. | Cum | 584.14 |
| 1.02 | SOR 254 | Extra for Every additional lift of 1.5m or part thereof. (@ Rs.17/Cum/Lift) | Cum | 440.50 |
| 1.03 | DSR 2.18.3 | Close timbering over areas including strutting, shoring and packing cavities (wherever required) etc. complete. (Measurements to be taken of the face area timbered): Depth exceeding 3 m but not exceeding 4.5 m | Cum | 272.70 |
| 1.04 | DSR 2.24.1 | Extra for quantities of works, executed: In or under water and/or liquid mud, including pumping out water as required (@20% of Total Cost of Items 1.01, 1.02 & 1.03). | LS | 1 |
| 1.05 | SOR 255 SOR Material Item No. 9(b) | Sand Filling in plinth under floors including watering, ramming, consolidating and dressing complete including lead upto 50m and lift upto 1.5m including cost of sand. Cost of sand (Local sand - Zone-II with FM of more than 2.25) @ Rs.550/Cu.m | Cum | 11.48 |
| 1.06 | SOR 281 | Providing and laying in Cement Concrete 1:4:8 of not less than strength of M150 (1 Cement : 4 fine sand : 8 (Stone Ballast 40mm nominal size)) and curing complete including cost of formwork in foundation and floors | Cum | 11.48 |
| 1.07 | DSR 4.3.2 | Centering and shuttering including strutting, propping etc. and removal of form work for : Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc. | | |
| 1.08 | | Exterior Walls (Width) (Exterior Side) | sqm | 75.60 |
| 1.09 | | Exterior Walls (Width) (Interior Side) | sqm | 58.00 |
| 1.10 | | Exterior Walls (Length) (Exterior Side) | sqm | 138.60 |
| 1.11 | | Exterior Walls Length (Interior Side) | sqm | 116.00 |
| 1.12 | | Middle Wall | sqm | 60.00 |
| 1.13 | | Internal Wall-1 (Inlet Tank Wall) | sqm | 7.92 |
| 1.14 | | Internal Wall-2 (Settling Tank Wall) | sqm | 13.20 |
| 1.15 | | Internal Wall-3 (Filter Bed Wall) | sqm | 15.00 |
| 1.16 | | Baffle Walls | sqm | 13.60 |

| KANPUR SMART CITY LIMITED | | | | |
|--|--|---|------|----------|
| Rain Water Harvesting System Type-1 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| 1.17 | DSR 5.9.3 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Suspended floors, roofs, landings, balconies and access platform | | |
| 1.18 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | sqm | 22.00 |
| 1.19 | | Bottom Slab for Filter Bed | sqm | 5.00 |
| 1.20 | | Top Slab for Clear Water Tank | sqm | 20.00 |
| 1.21 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at -3.00m Lev | sqm | 21.90 |
| 1.22 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at roof Lev. | sqm | 32.85 |
| 1.23 | DSR 5.33.1, DSR 5.33.2, DSR 5.34.1 | Providing and laying in position machine batched and machine mixed design mix M-30 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge."(Note:- Cement content considered in this item is @ 340 kg/cum. "Excess/ less cement used as per design mix is payable/recoverable separately). | | |
| 1.24 | | Exterior Walls (Width) | Cum | 29.00 |
| 1.25 | | Exterior Walls (Length) | Cum | 63.80 |
| 1.26 | | Middle Wall | Cum | 9.00 |
| 1.27 | | Internal Wall-1 (Inlet Tank Wall) | Cum | 0.99 |
| 1.28 | | Internal Wall-2 (Settling Tank Wall) | Cum | 1.65 |
| 1.29 | | Internal Wall-3 (Filter Bed Wall) | Cum | 1.88 |
| 1.30 | | Baffle Walls | Cum | 1.02 |
| 1.31 | | RAFT | Cum | 36.48 |
| 1.32 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | Cum | 4.40 |
| 1.33 | | Bottom Slab for Filter Bed | Cum | 1.00 |
| 1.34 | | Top Slab for Clear Water Tank | Cum | 4.00 |
| 1.35 | | Beams at -3.00m Lev | Cum | 3.29 |
| 1.36 | | Beams at roof Lev. | Cum | 3.29 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-1

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|-------------------|---|------|----------|
| 1.37 | DSR 5.22.6 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more. | Kg | 14513.38 |
| 1.38 | DSR 22.4 | Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : | m | 32.80 |
| 1.39 | DSR 12.41.2 | Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes. 110 mm diameter | m | 540.00 |
| 1.40 | DSR 12.42.1.2 | Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. Coupler 110mm | Nos | 180.00 |
| 1.41 | Quotation | PVC single wall corrugated pipes with inbuilt perforations - conforming to IS 9271 specifications. Length - 6 meters straight Providing and Installation of 250mm OD PVC corrugated and perforated pipe for drainage | m | 510.00 |
| 1.42 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. | Cum | 1.50 |
| 1.43 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. (Replacement Once in an Year-in the Month of April) | Cum | 1.50 |
| 1.44 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 1.50 |
| 1.45 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all | Cum | 1.50 |

| KANPUR SMART CITY LIMITED | | | | |
|--|----------------------------|---|-------|----------|
| Rain Water Harvesting System Type-1 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| | | complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | | |
| 1.46 | Quotation Activated Carbon | Supplying, filling, spreading & levelling coconut shell activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Kg | 375.00 |
| 1.47 | Quotation Activated Carbon | Supplying, filling, spreading & levelling recharged activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | Kg | 375.00 |
| 1.48 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 0.75 |
| 1.49 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | Cum | 0.75 |
| 1.50 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Supply of Treated Water (1 HP) | Nos. | 2.00 |
| 1.51 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Sludge water removal (0.5 HP) | Nos. | 2.00 |
| 1.52 | Market Rate | Feeder Pillar :- | | |
| 1.53 | | INCOMER : 63 AMP FP MCB (10 KA) | | |
| 1.54 | | The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above ambient temperature. | | |
| 1.55 | | OUT GOINGS : 4 nos. 6-32 AMP TPN MCB (10 KA) | SET | 1 |
| 1.56 | | Feeder Pillar | SET | 1 |
| 1.57 | | CABLES | | |
| 1.58 | | Supply and laying of aluminium conductor PVC insulated armoured served sheathed cables 1100 Volts grade. | | |
| 1.59 | | 6 sq mm 4 core | m | 250 |
| 1.60 | | 35 sq mm 4 core | m | 50 |
| 1.61 | | COSTS OF CHEMICALS | | |
| 1.62 | Jal Nigam Rate | Cost of Chemicals for chlorination Sodium Hypochlorite solution for one year. | litre | 120.00 |
| 1.63 | Quotation Polyacryl amide | Cost of Chemicals for flocculation: Poly DADMAC - cationic solution for one year. | litre | 120.00 |

| KANPUR SMART CITY LIMITED | | | | |
|--|----------------------|--|-------|----------|
| Rain Water Harvesting System Type-1 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| 1.64 | | STRUCTURAL STEEL WORKS & OTHER WORKS | | |
| 1.65 | DSR 10.25.2 | Galvanised MS Grating Floor at Roof Level with 50x6 MS Flats and 10mm Dia Round MS bar including 10mm Sq. wire mesh covering over the Grating Floor: Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works | | |
| 1.66 | | Top Cover for Inlet Chamber, Flash Mixer, Settling Tank | Sqm | 23.85 |
| 1.67 | | Top Cover for Filter Bed | Sqm | 5.70 |
| 1.68 | DSR 10.2 | Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. | Tonne | 2.96 |
| 1.69 | DSR 18.10.6 | Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc. GI Pipe 50mm Dia Nominal Bore | m | 100.00 |
| 1.70 | DSR 18.12.8 | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work GI Pipe 80mm Dia Nominal Bore | m | 395.00 |
| 1.71 | DSR 18.13.2 | Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete : Connections 50mm to 80mm nominal bore | Nos | 5.00 |
| 1.72 | DSR 23.1 | Boring/drilling bore well of required dia for casing/strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and Submitting strata chart/ bore log, including hire & running charges of all equipment, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level. All types of soil 300 mm dia (2 Nos.) | m | 54.00 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-1

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|----------------------|--|------|------------|
| 1.73 | DSR 23.11.3 | Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumenistic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer - in-charge. 200 mm nominal size dia (2 Nos.) | m | 48.00 |
| 1.74 | - | Miscellaneous Works: Erection of new Sintex (or Equivalent) Tank (Cap. as per direction of EIC) on existing Building Roof Tops; Pumps erection and their covering, Handrails, Cage ladders for new storage tank; including minor Repairs etc. of existing infrastructure as required for RWH - all complete @15% of the total cost above | LS | Rs. 730435 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-2

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|--|--|------|----------|
| 1.01 | SOR 252 | Earth work in excavation in trenches for foundations in soil mixed with moorum, shingle, kankar etc., including dismantling of existing paver block or Cement Concrete footpaths, existing drains, ducts and removal of debris requiring the use of special T&P such as pickaxes, sabbals etc including lift upto 1.50m and staking of serviceable materials and dressing of sides and ramming of bottom and disposal of surplus excavated earth and debris as directed by Engineer-in-charge within a lead of 50 m. | Cum | 848.23 |
| 1.02 | SOR 254 | Extra for Every additional lift of 1.5m or part thereof. (@ Rs.17/Cum/Lift) | Cum | 646.27 |
| 1.03 | DSR 2.18.3 | Close timbering over areas including strutting, shoring and packing cavities (wherever required) etc. complete. (Measurements to be taken of the face area timbered): Depth exceeding 3 m but not exceeding 4.5 m | Cum | 325.35 |
| 1.04 | DSR 2.24.1 | Extra for quantities of works, executed: In or under water and/or liquid mud, including pumping out water as required (@20% of Total Cost of Items 1.01, 1.02 & 1.03). | LS | Rs.38167 |
| 1.05 | SOR 255 SOR Material Item No. 9(b) | Sand Filling in plinth under floors including watering, ramming, consolidating and dressing complete including lead upto 50m and lift upto 1.5m including cost of sand. Cost of sand (Local sand - Zone-II with FM of more than 2.25) @ Rs.550/Cu.m | Cum | 16.73 |
| 1.06 | SOR 281 | Providing and laying in Cement Concrete 1:4:8 of not less than strength of M150 (1 Cement : 4 fine sand : 8 (Stone Ballast 40mm nominal size)) and curing complete including cost of formwork in foundation and floors | Cum | 16.73 |
| 1.07 | DSR 4.3.2 | Centering and shuttering including strutting, propping etc. and removal of form work for : Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc. | | |
| 1.08 | | Exterior Walls (Width) (Exterior Side) | sqm | 92.30 |
| 1.09 | | Exterior Walls (Width) (Interior Side) | sqm | 72.00 |
| 1.10 | | Exterior Walls (Length) (Exterior Side) | sqm | 176.80 |
| 1.11 | | Exterior Walls Length (Interior Side) | sqm | 150.00 |
| 1.12 | | Middle Wall | sqm | 75.00 |
| 1.13 | | Internal Wall-1 (Inlet Tank Wall) | sqm | 9.72 |
| 1.14 | | Internal Wall-2 (Settling Tank Wall) | sqm | 16.20 |
| 1.15 | | Internal Wall-3 (Filter Bed Wall) | sqm | 18.00 |
| 1.16 | | Baffle Walls | sqm | 17.60 |

| KANPUR SMART CITY LIMITED | | | | |
|--|---|---|------|----------|
| Rain Water Harvesting System Type-2 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| 1.17 | DSR 5.9.3 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Suspended floors, roofs, landings, balconies and access platform | | |
| 1.18 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | sqm | 33.75 |
| 1.19 | | Bottom Slab for Filter Bed | sqm | 6.00 |
| 1.20 | | Top Slab for Clear Water Tank | sqm | 31.50 |
| 1.21 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at -3.00m Lev | sqm | 26.90 |
| 1.22 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at roof Lev. | sqm | 40.35 |
| 1.23 | DSR 5.33.1, DSR 5.33.2, DSR 5.34.1 | Providing and laying in position machine batched and machine mixed design mix M-30 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge."(Note:- Cement content considered in this item is @ 340 kg/cum. "Excess/ less cement used as per design mix is payable/recoverable separately). | | |
| 1.24 | | Exterior Walls (Width) | Cum | 39.60 |
| 1.25 | | Exterior Walls (Length) | Cum | 89.76 |
| 1.26 | | Middle Wall | Cum | 11.25 |
| 1.27 | | Internal Wall-1 (Inlet Tank Wall) | Cum | 1.22 |
| 1.28 | | Internal Wall-2 (Settling Tank Wall) | Cum | 2.03 |
| 1.29 | | Internal Wall-3 (Filter Bed Wall) | Cum | 2.25 |
| 1.30 | | Baffle Walls | Cum | 1.32 |
| 1.31 | | RAFT | Cum | 53.58 |
| 1.32 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | Cum | 6.75 |
| 1.33 | | Bottom Slab for Filter Bed | Cum | 1.20 |
| 1.34 | | Top Slab for Clear Water Tank | Cum | 6.30 |
| 1.35 | | Beams at -3.00m Lev | Cum | 4.84 |
| 1.36 | | Beams at roof Lev. | Cum | 4.84 |

| KANPUR SMART CITY LIMITED | | | | |
|--|----------------------|---|------|----------|
| Rain Water Harvesting System Type-2 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| 1.37 | DSR 5.22.6 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more. | Kg | 21037.22 |
| 1.38 | DSR 22.4 | Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : | m | 40.20 |
| 1.39 | DSR 12.41.2 | Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes. 110 mm diameter | m | 950.00 |
| 1.40 | DSR 12.42.1.2 | Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. Coupler 110mm | Nos | 317.00 |
| 1.41 | Quotation | PVC single wall corrugated pipes with inbuilt perforations - conforming to IS 9271 specifications. Length - 6 meters straight Providing and Installation of 250mm OD PVC corrugated and perforated pipe for drainage | m | 900.00 |
| 1.42 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. | Cum | 1.80 |
| 1.43 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. (Replacement Once in an Year-in the Month of April) | Cum | 1.80 |
| 1.44 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 1.80 |
| 1.45 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all | Cum | 1.80 |

| KANPUR SMART CITY LIMITED | | | | |
|--|----------------------------|---|-------|----------|
| Rain Water Harvesting System Type-2 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| | | complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | | |
| 1.46 | Quotation Activated Carbon | Supplying, filling, spreading & levelling coconut shell activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Kg | 450.00 |
| 1.47 | Quotation Activated Carbon | Supplying, filling, spreading & levelling recharged activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | Kg | 450.00 |
| 1.48 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 0.90 |
| 1.49 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | Cum | 0.90 |
| 1.50 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Supply of Treated Water (1 HP) | Nos. | 2.00 |
| 1.51 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Sludge water removal (0.5 HP) | Nos. | 2.00 |
| 1.52 | Market Rate | Feeder Pillar :- | | |
| 1.53 | | INCOMER : 63 AMP FP MCB (10 KA) | | |
| 1.54 | | The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above ambient temperature. | | |
| 1.55 | | OUT GOINGS : 4 nos. 6-32 AMP TPN MCB (10 KA) | SET | 1 |
| 1.56 | | Feeder Pillar | SET | 1 |
| 1.57 | | CABLES | | |
| 1.58 | | Supply and laying of aluminium conductor PVC insulated armoured served sheathed cables 1100 Volts grade. | | |
| 1.59 | | 6 sq mm 4 core | m | 250 |
| 1.60 | | 35 sq mm 4 core | m | 50 |
| 1.61 | | COSTS OF CHEMICALS | | |
| 1.62 | Jal Nigam Rate | Cost of Chemicals for chlorination Sodium Hypochlorite solution for one year. | litre | 198.00 |

| KANPUR SMART CITY LIMITED | | | | |
|--|---------------------------|---|-------|----------|
| Rain Water Harvesting System Type-2 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| 1.63 | Quotation Polyacryl amide | Cost of Chemicals for flocculation: Poly DADMAC - cationic solution for one year. | litre | 198.00 |
| 1.64 | | STRUCTURAL STEEL WORKS & OTHER WORKS | | |
| 1.65 | DSR 10.25.2 | Galvanised MS Grating Floor at Roof Level with 50x6 MS Flats and 10mm Dia Round MS bar including 10mm Sq. wire mesh covering over the Grating Floor: Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works | | |
| 1.66 | | Top Cover for Inlet Chamber, Flash Mixer, Settling Tank | Sqm | 36.05 |
| 1.67 | | Top Cover for Filter Bed | Sqm | 6.77 |
| 1.68 | DSR 10.2 | Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. | Tonne | 4.28 |
| 1.69 | DSR 18.10.6 | Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc. GI Pipe 50mm Dia Nominal Bore | m | 250.00 |
| 1.70 | DSR 18.12.8 | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work GI Pipe 80mm Dia Nominal Bore | m | 600.00 |
| 1.71 | DSR 18.13.2 | Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete : Connections 50mm to 80mm nominal bore | Nos | 8.00 |
| 1.72 | DSR 23.1 | Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and Submitting strata chart/ bore log, including hire & running charges of all equipment, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level. All types of soil 300 mm dia (2 Nos.) | m | 54.00 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-2

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|----------------------|--|------|------------|
| 1.73 | DSR 23.11.3 | Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumenastic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer - in-charge. 200 mm nominal size dia (2-Nos.) | m | 48.00 |
| 1.74 | - | Miscellaneous Works: Erection of new Sintex (or Equivalent) Tank (Cap. as per direction of EIC) on existing Building Roof Tops; Pumps erection and their covering, Handrails, Cage ladders for new storage tanks; including minor Repairs etc. of existing infrastructure as required for RWH - all complete @15% of the total cost above | LS | Rs.1056522 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-3

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|--|--|------|----------|
| 1.01 | SOR 252 | Earth work in excavation in trenches for foundations in soil mixed with moorum, shingle, kankar etc., including dismantling of existing paver block or Cement Concrete footpaths, existing drains, ducts and removal of debris requiring the use of special T&P such as pickaxes, sabbals etc including lift upto 1.50m and staking of serviceable materials and dressing of sides and ramming of bottom and disposal of surplus excavated earth and debris as directed by Engineer-in-charge within a lead of 50 m. | Cum | 1109.05 |
| 1.02 | SOR 254 | Extra for Every additional lift of 1.5m or part thereof. (@ Rs.17/Cum/Lift) | Cum | 844.99 |
| 1.03 | DSR 2.18.3 | Close timbering over areas including strutting, shoring and packing cavities (wherever required) etc. complete. (Measurements to be taken of the face area timbered): Depth exceeding 3 m but not exceeding 4.5 m | Cum | 365.85 |
| 1.04 | DSR 2.24.1 | Extra for quantities of works, executed: In or under water and/or liquid mud, including pumping out water as required (@20% of Total Cost of Items 1.01, 1.02 & 1.03). | LS | 1 |
| 1.05 | SOR 255 SOR Material Item No. 9(b) | Sand Filling in plinth under floors including watering, ramming, consolidating and dressing complete including lead upto 50m and lift upto 1.5m including cost of sand. Cost of sand (Local sand - Zone-II with FM of more than 2.25) @ Rs.550/Cu.m | Cum | 22.49 |
| 1.06 | SOR 281 | Providing and laying in Cement Concrete 1:4:8 of not less than strength of M150 (1 Cement : 4 fine sand : 8 (Stone Ballast 40mm nominal size)) and curing complete including cost of formwork in foundation and floors | Cum | 22.49 |
| 1.07 | DSR 4.3.2 | Centering and shuttering including strutting, propping etc. and removal of form work for : Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc. | | |
| 1.08 | | Exterior Walls (Width) (Exterior Side) | sqm | 118.30 |
| 1.09 | | Exterior Walls (Width) (Interior Side) | sqm | 96.00 |
| 1.10 | | Exterior Walls (Length) (Exterior Side) | sqm | 189.80 |
| 1.11 | | Exterior Walls Length (Interior Side) | sqm | 162.00 |
| 1.12 | | Middle Wall | sqm | 81.00 |
| 1.13 | | Internal Wall-1 (Inlet Tank Wall) | sqm | 11.52 |
| 1.14 | | Internal Wall-2 (Settling Tank Wall) | sqm | 19.20 |
| 1.15 | | Internal Wall-3 (Filter Bed Wall) | sqm | 27.00 |
| 1.16 | | Baffle Walls | sqm | 21.60 |

| KANPUR SMART CITY LIMITED | | | | |
|--|--|---|------|----------|
| Rain Water Harvesting System Type-3 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| 1.17 | DSR 5.9.3 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Suspended floors, roofs, landings, balconies and access platform | | |
| 1.18 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | sqm | 43.20 |
| 1.19 | | Bottom Slab for Filter Bed | sqm | 13.50 |
| 1.20 | | Top Slab for Clear Water Tank | sqm | 47.25 |
| 1.21 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at -3.00m Lev | sqm | 33.40 |
| 1.22 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at roof Lev. | sqm | 50.10 |
| 1.23 | DSR 5.33.1, DSR 5.33.2, DSR 5.34.1 | Providing and laying in position machine batched and machine mixed design mix M-30 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge."(Note:- Cement content considered in this item is @ 340 kg/cum. "Excess/ less cement used as per design mix is payable/recoverable separately). | | |
| 1.24 | | Exterior Walls (Width) | Cum | 52.80 |
| 1.25 | | Exterior Walls (Length) | Cum | 96.36 |
| 1.26 | | Middle Wall | Cum | 12.15 |
| 1.27 | | Internal Wall-1 (Inlet Tank Wall) | Cum | 1.44 |
| 1.28 | | Internal Wall-2 (Settling Tank Wall) | Cum | 2.40 |
| 1.29 | | Internal Wall-3 (Filter Bed Wall) | Cum | 3.38 |
| 1.30 | | Baffle Walls | Cum | 1.62 |
| 1.31 | | RAFT | Cum | 72.48 |
| 1.32 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | Cum | 8.64 |
| 1.33 | | Bottom Slab for Filter Bed | Cum | 2.70 |
| 1.34 | | Top Slab for Clear Water Tank | Cum | 9.45 |
| 1.35 | | Beams at -3.00m Lev | Cum | 6.01 |
| 1.36 | | Beams at roof Lev. | Cum | 6.01 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-3

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|-------------------|---|------|----------|
| 1.37 | DSR 5.22.6 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more. | Kg | 19587.48 |
| 1.38 | DSR 22.4 | Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : | m | 46.20 |
| 1.39 | DSR 12.41.2 | Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes. 110 mm diameter | m | 1350.00 |
| 1.40 | DSR 12.42.1.2 | Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. Coupler 110mm | Nos | 450 |
| 1.41 | Quotation | PVC single wall corrugated pipes with inbuilt perforations - conforming to IS 9271 specifications. Length - 6 meters straight Providing and Installation of 250mm OD PVC corrugated and perforated pipe for drainage | m | 1300.00 |
| 1.42 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. | Cum | 4.05 |
| 1.43 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. (Replacement Once in an Year-in the Month of April) | Cum | 4.05 |
| 1.44 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 4.05 |
| 1.45 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all | Cum | 4.05 |

| KANPUR SMART CITY LIMITED | | | | |
|--|----------------------------|---|-------|----------|
| Rain Water Harvesting System Type-3 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| | | complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | | |
| 1.46 | Quotation Activated Carbon | Supplying, filling, spreading & levelling coconut shell activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Kg | 1012.50 |
| 1.47 | Quotation Activated Carbon | Supplying, filling, spreading & levelling recharged activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | Kg | 1012.50 |
| 1.48 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 2.03 |
| 1.49 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement Once in an Year-in the Month of April) | Cum | 2.03 |
| 1.50 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Supply of Treated Water (1 HP) | Nos. | 2.00 |
| 1.51 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Sludge water removal (0.5 HP) | Nos. | 2.00 |
| 1.52 | Market Rate | Feeder Pillar :- | | |
| 1.53 | | INCOMER : 63 AMP FP MCB (10 KA) | | |
| 1.54 | | The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above ambient temperature. | | |
| 1.55 | | OUT GOINGS : 4 nos. 6-32 AMP TPN MCB (10 KA) | SET | 1 |
| 1.56 | | Feeder Pillar | SET | 1 |
| 1.57 | | CABLES | | |
| 1.58 | | Supply and laying of aluminium conductor PVC insulated armoured served sheathed cables 1100 Volts grade. | | |
| 1.59 | | 6 sq mm 4 core | m | 250 |
| 1.60 | | 35 sq mm 4 core | m | 50 |
| 1.61 | | COSTS OF CHEMICALS | | |
| 1.62 | Jal Nigam Rate | Cost of Chemicals for chlorination Sodium Hypochlorite solution for one year. | litre | 576.00 |
| 1.63 | Quotation Polyacryl amide | Cost of Chemicals for flocculation: Poly DADMAC - cationic solution for one year. | litre | 576.00 |

| KANPUR SMART CITY LIMITED | | | | |
|--|----------------------|---|-------|----------|
| Rain Water Harvesting System Type-3 | | | | |
| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
| 1.64 | | STRUCTURAL STEEL WORKS & OTHER WORKS | | |
| 1.65 | DSR 10.25.2 | Galvanised MS Grating Floor at Roof Level with 50x6 MS Flats and 10mm Dia Round MS bar including 10mm Sq. wire mesh covering over the Grating Floor: Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works | | |
| 1.66 | | Top Cover for Inlet Chamber, Flash Mixer, Settling Tank | Sqm | 36.05 |
| 1.67 | | Top Cover for Filter Bed | Sqm | 6.77 |
| 1.68 | DSR 10.2 | Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. | Tonne | 4.28 |
| 1.69 | DSR 18.10.6 | Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc. GI Pipe 50mm Dia Nominal Bore | m | 500.00 |
| 1.70 | DSR 18.12.8 | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work GI Pipe 80mm Dia Nominal Bore | m | 1000.00 |
| 1.71 | DSR 18.13.2 | Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete : Connections 50mm to 80mm nominal bore | Nos | 12.00 |
| 1.72 | DSR 23.1 | Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and Submitting strata chart/ bore log, including hire & running charges of all equipment, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level. All types of soil 300 mm dia (3 Nos.) | m | 72.00 |

KANPUR SMART CITY LIMITED
Rain Water Harvesting System Type-3

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|----------------------|--|------|------------|
| 1.73 | DSR 23.11.3 | Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumenestic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer - in-charge. 200 mm nominal size dia (3 Nos.) | m | 63.00 |
| 1.74 | - | Miscellaneous Works: Erection of new Sintex (or Equivalent) Tank (Cap. as per direction of EIC) on existing Building Roof Tops; Pumps erection and their covering, Handrails, Cage ladders for new storage tanks; including minor Repairs etc. of existing infrastructure as required for RWH - all complete @15% of the total cost above | LS | Rs. 369565 |

KANPUR SMART CITY LIMITED
WASTE WATER RECYCLING SYSTEM AT DHOBI GHAT

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|--|--|------|----------|
| 1.01 | SOR 252 | Earth work in excavation in trenches for foundations in soil mixed with moorum, shingle, kankar etc., including dismantling of existing paver block or Cement Concrete footpaths, existing drains, ducts and removal of debris requiring the use of special T&P such as pickaxes, sabbals etc including lift upto 1.50m and staking of serviceable materials and dressing of sides and ramming of bottom and disposal of surplus excavated earth and debris as directed by Engineer-in-charge within a lead of 50 m. | Cum | 2099.57 |
| 1.02 | SOR 254 | Extra for Every additional lift of 1.5m or part thereof. (@ Rs.17/Cum/Lift) | Cum | 1720.13 |
| 1.03 | DSR 2.18.3 | Close timbering over areas including strutting, shoring and packing cavities (wherever required) etc. complete. (Measurements to be taken of the face area timbered): Depth exceeding 3 m but not exceeding 4.5 m | Cum | 627.90 |
| 1.04 | DSR 2.24.1 | Extra for quantities of works, executed: In or under water and/or liquid mud, including pumping out water as required (@20% of Total Cost of Items 1.01, 1.02 & 1.03). | LS | 1 |
| 1.05 | SOR 255 SOR Material Item No. 9(b) | Sand Filling in plinth under floors including watering, ramming, consolidating and dressing complete including lead upto 50m and lift upto 1.5m including cost of sand. Cost of sand (Local sand - Zone-II with FM of more than 2.25) @ Rs.550/Cu.m | Cum | 33.26 |
| 1.06 | SOR 281 | Providing and laying in Cement Concrete 1:4:8 of not less than strength of M150 (1 Cement : 4 fine sand : 8 (Stone Ballast 40mm nominal size)) and curing complete including cost of formwork in foundation and floors | Cum | 33.26 |
| 1.07 | SOR 281 | Providing and laying in Cement Concrete 1:4:8 of not less than strength of M150 (1 Cement : 4 fine sand : 8 (Stone Ballast 40mm nominal size)) and curing complete including cost of formwork in foundation and floors (Under Paving) | Cum | 450.00 |
| 1.08 | DSR 4.3.2 | Centering and shuttering including strutting, propping etc. and removal of form work for : Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc. | | |
| 1.09 | | Exterior Walls (Width) (Exterior Side) | sqm | 184.00 |
| 1.10 | | Exterior Walls (Width) (Interior Side) | sqm | 146.00 |
| 1.11 | | Exterior Walls (Length) (Exterior Side) | sqm | 264.00 |
| 1.12 | | Exterior Walls Length (Interior Side) | sqm | 219.00 |

KANPUR SMART CITY LIMITED
WASTE WATER RECYCLING SYSTEM AT DHOBI GHAT

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|--|---|------|----------|
| 1.13 | | Middle Wall | sqm | 90.00 |
| 1.14 | | Internal Wall-1 (Inlet Tank Wall) | sqm | 14.40 |
| 1.15 | | Internal Wall-2 (Settling Tank Wall) | sqm | 24.00 |
| 1.16 | | Internal Wall-3 (Filter Bed Wall) | sqm | 34.20 |
| 1.17 | | Baffle Walls | sqm | 28.00 |
| 1.18 | | Paving | sqm | 40.50 |
| 1.19 | DSR 5.9.3 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Suspended floors, roofs, landings, balconies and access platform | | |
| 1.20 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | sqm | 60.00 |
| 1.21 | | Bottom Slab for Filter Bed | sqm | 17.10 |
| 1.22 | | Top Slab for Clear Water Tank | sqm | 68.40 |
| 1.23 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at -3.00m Lev | sqm | 40.10 |
| 1.24 | DSR 5.9.5 | Centering and shuttering including strutting, propping etc. and removal of form for all heights : Lintels, beams, plinth beams, girders, bressumers and cantilevers - Beams at roof Lev. | sqm | 60.15 |
| 1.25 | DSR 5.33.1, DSR 5.33.2, DSR 5.34.1 | Providing and laying in position machine batched and machine mixed design mix M-30 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.“(Note:- Cement content considered in this item is @ 340 kg/cum. “Excess/ less cement used as per design mix is payable/recoverable separately). | | |
| 1.26 | | Exterior Walls (Width) | Cum | 109.50 |
| 1.27 | | Exterior Walls (Length) | Cum | 190.53 |
| 1.28 | | Middle Wall | Cum | 13.50 |
| 1.29 | | Internal Wall-1 (Inlet Tank Wall) | Cum | 2.16 |
| 1.30 | | Internal Wall-2 (Settling Tank Wall) | Cum | 3.60 |
| 1.31 | | Internal Wall-3 (Filter Bed Wall) | Cum | 5.13 |
| 1.32 | | Baffle Walls | Cum | 2.80 |

KANPUR SMART CITY LIMITED
WASTE WATER RECYCLING SYSTEM AT DHOBI GHAT

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|----------------------|---|------|----------|
| 1.33 | | RAFT | Cum | 151.03 |
| 1.34 | | Bottom Slab for Inlet Chamber, Flash Mixer, Settling Tank | Cum | 15.00 |
| 1.35 | | Bottom Slab for Filter Bed | Cum | 4.28 |
| 1.36 | | Top Slab for Clear Water Tank | Cum | 17.10 |
| 1.37 | | Beams at -3.00m Lev | Cum | 7.22 |
| 1.38 | | Beams at roof Lev. | Cum | 7.22 |
| 1.39 | | Paving | Cum | 675.00 |
| 1.40 | DSR 5.22.6 | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more. | Kg | 90053.11 |
| 1.41 | DSR 22.4 | Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : | m | 54.80 |
| 1.42 | DSR 12.41.2 | Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes. 110 mm diameter | m | 210.00 |
| 1.43 | DSR 12.42.1.2 | Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. Coupler 110mm | Nos | 70.00 |
| 1.44 | Quotation | Providing and fixing Surface Drainage channel made of modified PP, with integrated angle housing, with Vertical connection possibility DN/OD 110, with GUGI mesh grating, mesh width 15/25, with horizontal thrust resistance and locking device, black, L/W/H 1000x160x250 mm, Total Weight _ per meter - 5.5 Kg, loading capacity 125Kn (12.5 Tons) according to EN 1433,Material: Channel body: modified Polypropylene, • Bolts: Steel black galvanized, Locking handle: RECYFIX Material (recycled PA), • Grating: reinforced Polyamide (2-Channels in parallel side by side) | m | 800.00 |

KANPUR SMART CITY LIMITED
WASTE WATER RECYCLING SYSTEM AT DHOBI GHAT

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|----------------------------|--|------|----------|
| 1.45 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. | Cum | 5.13 |
| 1.46 | DSR 23.7 | Supplying, filling, spreading & levelling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. (Replacement thrice in an Year-in the Months of April, August, December) | Cum | 15.39 |
| 1.47 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 5.13 |
| 1.48 | DSR 23.7 | Supplying, filling, spreading & levelling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement thrice in an Year-in the Months of April, August, December) | Cum | 15.39 |
| 1.49 | Quotation Activated Carbon | Supplying, filling, spreading & levelling coconut shell activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Kg | 1282.50 |
| 1.50 | Quotation Activated Carbon | Supplying, filling, spreading & levelling recharged activated carbon in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement thrice in an Year-in the Months of April, August, December) | Kg | 3847.50 |
| 1.51 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. | Cum | 2.57 |
| 1.52 | DSR 23.8 | Supplying, filling, spreading & levelling pea gravel in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge. (Replacement thrice in an Year-in the Months of April, August, December) | Cum | 7.70 |
| 1.53 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Supply of Treated Water (1 HP) | Nos. | 2.00 |
| 1.54 | Quotation Pumps | Providing and fixing 2-Nos. (1W+1S) Mono Block Centrifugal Pumps for Sludge water removal (0.5 HP) | Nos. | 2.00 |

KANPUR SMART CITY LIMITED
WASTE WATER RECYCLING SYSTEM AT DHOBI GHAT

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|---------------------------|---|-------|----------|
| 1.55 | Market Rate | Feeder Pillar :- | | |
| 1.56 | | INCOMER : 63 AMP FP MCB (10 KA) | | |
| 1.57 | | The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above ambient temperature. | | |
| 1.58 | | OUT GOINGS : 4 nos. 6-32 AMP TPN MCB (10 KA) | SET | 1 |
| 1.59 | | Feeder Pillar | SET | 1 |
| 1.60 | | CABLES | | |
| 1.61 | | Supply and laying of aluminium conductor PVC insulated armoured served sheathed cables 1100 Volts grade. | | |
| 1.62 | | 6 sq mm 4 core | m | 500 |
| 1.63 | | 35 sq mm 4 core | m | 100 |
| 1.64 | | COSTS OF CHEMICALS | | |
| 1.65 | Jal Nigam Rate | Cost of Chemicals for chlorination Sodium Hypochlorite solution for one year. | litre | 1080.00 |
| 1.66 | Quotation Polyacryl amide | Cost of Chemicals for flocculation: Poly DADMAC - cationic solution for one year. | litre | 1080.00 |
| 1.67 | | STRUCTURAL STEEL WORKS & OTHER WORKS | | |
| 1.68 | DSR 10.25.2 | Galvanised MS Grating Floor at Roof Level with 50x6 MS Flats and 10mm Dia Round MS bar including 10mm Sq. wire mesh covering over the Grating Floor: Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works | | |
| 1.69 | | Top Cover for Inlet Chamber, Flash Mixer, Settling Tank | Sqm | 62.87 |
| 1.70 | | Top Cover for Filter Bed | Sqm | 18.43 |
| 1.71 | DSR 10.2 | Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. | Tonne | 8.13 |
| 1.72 | DSR 18.10.6 | Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc. GI Pipe 50mm Dia Nominal Bore | m | 800.00 |

KANPUR SMART CITY LIMITED
WASTE WATER RECYCLING SYSTEM AT DHOBI GHAT

| Sl. No. | KNP-SOR/ DSR Ref. | Description of work | Unit | Quantity |
|---------|-------------------|---|------|------------|
| 1.73 | DSR 18.12.8 | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work GI Pipe 80mm Dia Nominal Bore | m | 1000.00 |
| 1.74 | DSR 18.13.2 | Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete : Connections 50mm to 80mm nominal bore | Nos | 80.00 |
| 1.75 | DSR 23.1 | Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and Submitting strata chart/ bore log, including hire & running charges of all equipment, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level. in All types of soil - 300 mm dia (4 Nos.) | m | 96.00 |
| 1.76 | DSR 23.11.3 | Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumenestic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer - in-charge. - (200 mm nominal size dia) (4-Nos.) | m | 84.00 |
| 1.77 | - | Miscellaneous Works: Erection of new Sintex (or Equivalent) Tank (Cap. as per direction of EIC) on new elevated structure as per Dwgs.; Pumps erection and their covering; Handrails, Cage ladders for new storage tank; including minor Repairs etc. of existing infrastructure as required for Waste water tapping & disposal - all complete @ 15% of the total cost above | LS | Rs.4434783 |

| O & M COSTS OF RAIN WATER HARVESTING & WASTE WATER RECYCLING WORKS (EXCLUDING ELECTRICAL CHARGES) | | | | | | | | | |
|--|-------------------------------|------------------------------|----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---------|
| Sl. No. | Building Name | System Type | No. of Storage Tanks | At the End of 1st Year | At the End of 2nd Year | At the End of 3rd Year | At the End of 4th Year | At the End of 5th Year | Total |
| | | | | (Rs.) | (Rs.) | (Rs.) | (Rs.) | (Rs.) | (Rs.) |
| 1 | Income Tax Office | Type-1 | 1 | 55191 | 59607 | 64375 | 69525 | 75087 | 323786 |
| 2 | Kanpur Head Post Office | Type-2 | 1 | 80995 | 87475 | 94473 | 102031 | 110193 | 475166 |
| 3 | Chunniganj Bus Stand | Type-1 | 1 | 55191 | 59607 | 64375 | 69525 | 75087 | 323786 |
| 4 | Kanpur Nagar Nigam Mukhyalaya | Type-3 | 2 | 249902 | 269894 | 291485 | 314804 | 339988 | 1466073 |
| 5 | Dhobi Ghat Near Bhairon Ghat | Waste Water Recycling System | 1 | 462140 | 499111 | 539040 | 582163 | 628736 | 2711188 |
| Totals | | | | 903419 | 975693 | 1053748 | 1138048 | 1229092 | 5300000 |

| Sl. No. | Operation & Maintenance Charges for Rain Water Harvesting for system Type-1 for one Year. Note: Total Working of Rain Water Harvesting System is considered for 6 Months of the Year. | | | | | | |
|---------------------|--|--------|---------------|-------------|------------|-------------|--------------|
| | Chemicals Charges | No. | Usage Per Day | No. of Days | Total Qty. | Rate in Rs. | Total in Rs. |
| 1 | Chemicals Charges Sodium Hypochlorite | 1 | 0.67 | 180 | 120 | 35 | 4200 |
| 2 | Chemicals Charges Poly DADMAC | 1 | 0.67 | 180 | 120 | 120 | 14400 |
| | Sand Filter Maintenance Charges | Length | Width | Depth | Qty. | Rate in Rs. | Total in Rs. |
| 3 | Gravel Replacement Charges once in an year in APRIL | 2 | 2.5 | 0.3 | 1.5 | 1038.05 | 1557 |
| 4 | Sand Replacement Charges once in an year in APRIL | 2 | 2.5 | 0.3 | 1.5 | 1038.05 | 1557 |
| 5 | Activated Charcoal Recharging Charges once in an year in APRIL | 2 | 2.5 | 0.15 | 375 | 20 | 7500 |
| 6 | Pea Gravel Replacement Charges once in an year in APRIL | 2 | 2.5 | 0.15 | 0.75 | 1175.6 | 882 |
| 7 | Add LS extra for Contingencies & Repairs | | | | | | 21000 |
| Total in Rs. | | | | | | | 51096 |

| I. No. | Operation & Maintenance Charges for Rain Water Harvesting for System Type-2 for one Year. Note: Total Working of Rain Water Harvesting System is considered for 6 Months of the Year. | | | | | | |
|---------------------|--|---------------|----------------------|--------------------|-------------------|--------------------|---------------------|
| | Chemicals Charges | No. | Usage Per Day | No. of Days | Total Qty. | Rate in Rs. | Total in Rs. |
| 1 | Chemicals Charges Sodium Hypochlorite | 1 | 1.1 | 180 | 198 | 35 | 6930 |
| 2 | Chemicals Charges Poly DADMAC | 1 | 1.1 | 180 | 198 | 120 | 23760 |
| | Sand Filter Maintenance Charges | Length | Width | Depth | Qty. | Rate in Rs. | Total in Rs. |
| 3 | Gravel Replacement Charges once in an year in APRIL | 2.0 | 3.0 | 0.3 | 1.8 | 1038.05 | 1868 |
| 4 | Sand Replacement Charges once in an year in APRIL | 2.0 | 3.0 | 0.3 | 1.8 | 1038.05 | 1868 |
| 5 | Activated Charcoal Recharging Charges once in an year in APRIL | 2.0 | 3.0 | 0.15 | 450 | 20 | 9000 |
| 6 | Pea Gravel Replacement Charges once in an year in APRIL | 2.0 | 3.0 | 0.15 | 0.9 | 1175.6 | 1058 |
| 7 | Add LS extra for Contingencies & Repairs | | | | | | 30500 |
| Total in Rs. | | | | | | | 74985 |

| Sl. No. | Operation & Maintenance Charges for Rain Water Harvesting for System Type-3 for one Year. Note: Total Working of Rain Water Harvesting System is considered for 6 Months of the Year. | | | | | | |
|-----------------------------------|--|---------------|----------------------|--------------------|-------------------|--------------------|---------------------|
| | Chemicals Charges | No. | Usage Per Day | No. of Days | Total Qty. | Rate in Rs. | Total in Rs. |
| 1 | Chemicals Charges Sodium Hypochlorite | 1 | 1.6 | 180 | 288 | 35 | 10080 |
| 2 | Chemicals Charges Poly DADMAC | 1 | 1.6 | 180 | 288 | 120 | 34560 |
| | Sand Filter Maintenance Charges | Length | Width | Depth | Qty. | Rate in Rs. | Total in Rs. |
| 3 | Gravel Replacement Charges once in an year in APRIL | 3.0 | 4.5 | 0.3 | 4.05 | 1038.05 | 4204 |
| 4 | Sand Replacement Charges once in an year in APRIL | 3.0 | 4.5 | 0.3 | 4.05 | 1038.05 | 4204 |
| 5 | Activated Charcoal Recharging Charges once in an year in APRIL | 3.0 | 4.5 | 0.15 | 1012.5 | 20 | 20250 |
| 6 | Pea Gravel Replacement Charges once in an year in APRIL | 3.0 | 4.5 | 0.15 | 2.025 | 1175.6 | 2381 |
| 7 | Add LS extra for Contingencies & Repairs | | | | | | 40000 |
| Total in Rs. | | | | | | | 115679 |
| Total in Rs. For Two Tanks | | | | | | | 231358 |

| Sl. No. | Operation & Maintenance Charges for Waste Water Recycling System Type-4 for one Year. | | | | | | |
|---------------------|--|---------------|----------------------|--------------------|-------------------|--------------------|---------------------|
| | Chemicals Charges | No. | Usage Per Day | No. of Days | Total Qty. | Rate in Rs. | Total in Rs. |
| 1 | Chemicals Charges Sodium Hypochlorite | 1 | 3 | 360 | 1080 | 35 | 37800 |
| 2 | Chemicals Charges Poly DADMAC | 1 | 3 | 360 | 1080 | 120 | 129600 |
| | Sand Filter Maintenance Charges | Length | Width | Depth | Qty. | Rate in Rs. | Total in Rs. |
| 3 | Gravel Replacement Charges THRICE in an year in APRIL, AUGUST, DECEMBER | 3.0 | 5.7 | 0.3 | 5.13 | 1038.05 | 15976 |
| 4 | Sand Replacement Charges THRICE in an year in APRIL, AUGUST, DECEMBER | 3.0 | 5.7 | 0.3 | 5.13 | 1038.05 | 15976 |
| 5 | Activated Charcoal Recharging Charges THRICE in an year in APRIL, AUGUST, DECEMBER | 3.0 | 5.7 | 0.15 | 1282.5 | 20 | 76950 |
| 6 | Pea Gravel Replacement Charges THRICE in an year in APRIL, AUGUST, DECEMBER | 3.0 | 5.7 | 0.15 | 2.565 | 1175.6 | 9046 |
| 7 | Add LS extra for Contingencies & Repairs | | | | | | 142500 |
| Total in Rs. | | | | | | | 427847 |

SECTION 6: FORMS OF BID AND SECURITIES

Form of Bid

Notes on Form of Bid: The Bidder shall fill in and submit this Bid form with the Bid.

----- (Date)

To

The Chief Executive Officer on behalf of GOVERNMENT OF INDIA, KSCL,
Kanpur.

Description of the work: -----

(a) I/We offer to execute the works described above and remedy any defects there in conformity with the conditions of contract, specifications, drawings, bill of quantities and addenda for

(b) For rate **as quoted online in BOQ** , as referred to in clause 13 of ITB.

1. We undertake to commence the works on receiving the notice to proceed with work in accordance with the contract documents.
2. This Bid your written acceptance of if shall constitute a binding contract between us. We understand that you are bound to accept the lowest or any Bid you receive.

We hereby confirm that this bid complies with the Bid validity and earnest money required by the bidding documents and specified in the Appendix to ITB.

Authorized Signature: - _____

Name and title of Signatory:- _____

Name of bidder: - _____

Authorized Address
of Communication:- _____

Telephone No(s): (Office):- _____

Mobile No: - _____

Facsimile (FAX) No: - _____

Electronic Mail Identification (E-mail ID):- _____

Forms of Securities

Acceptable forms of securities are annexed. Bidders should not complete the Performance and Advance Payment Security forms at this time. Only the successful Bidder will be required to provide Performance and Advance Payment Securities in accordance with one of the forms, or in a similar form acceptable to the Employer.

Annex I: Bid Security (Bank Guarantee)

Annex II: Performance Bank Guarantee

BID SECURITY (BANK GUARANTEE)

WHEREAS, *[name of Bidder]* (hereinafter called "the Bidder")

has submitted his Bid dated _____ *[date]* for the

“ _____ ”

Package No. - _____ (Hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that We _____
[name of bank] of _____ *[name of country]* having our registered
 office at _____ (Hereinafter called "the Bank") are bound unto
 Chief Executive Officer, Kanpur Smart City Limited, Motijheel, Kanpur – 208002,
 Uttar Pradesh (hereinafter called "the Employer") in the sum
 of _____ for which payment well and truly
 to be made to the said Employer the Bank binds itself, his successors and assigns
 by these presents.

SEALED with the Common Seal of the said Bank this day of. THE CONDITIONS
 of this obligation are:

- 1) If after Bid opening the Bidder withdraws his bid during the period of Bid
 validity specified in the Form of Bid; or
- 2) If the Bidder having been notified of the acceptance of his bid by the
 Employer during the period of Bid validity:
 - (a) Fails or refuses to execute the Form of Agreement in accordance with the
 Instructions to Bidders, if required; or
 - (b) Fails or refuses to furnish the Performance Security, in accordance
 with the Instruction to Bidders; or
 - (c) does not accept the correction of the Bid Price pursuant to Clause 27; we
 undertake to pay to the Employer up to the above amount upon receipt of
 his first written demand, without the Employer having to substantiate his
 demand, provided that in his demand the Employer will note that the amount
 claimed by him is due to him owing to the occurrence of one or any of the
 three conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including²days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE SIGNATURE OF THE BANK _____

WITNESS SEAL _____

[Signature, name, and address]

¹ The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.

² 45 days after the end of the validity period of the Bid.

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 Guarantor and responsible to you, on behalf of the Contractor, upto a total of _____

*[Amount of Guarantee]*¹ _____ *[in words]*

such sums 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 sums or sums within the limit 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_____

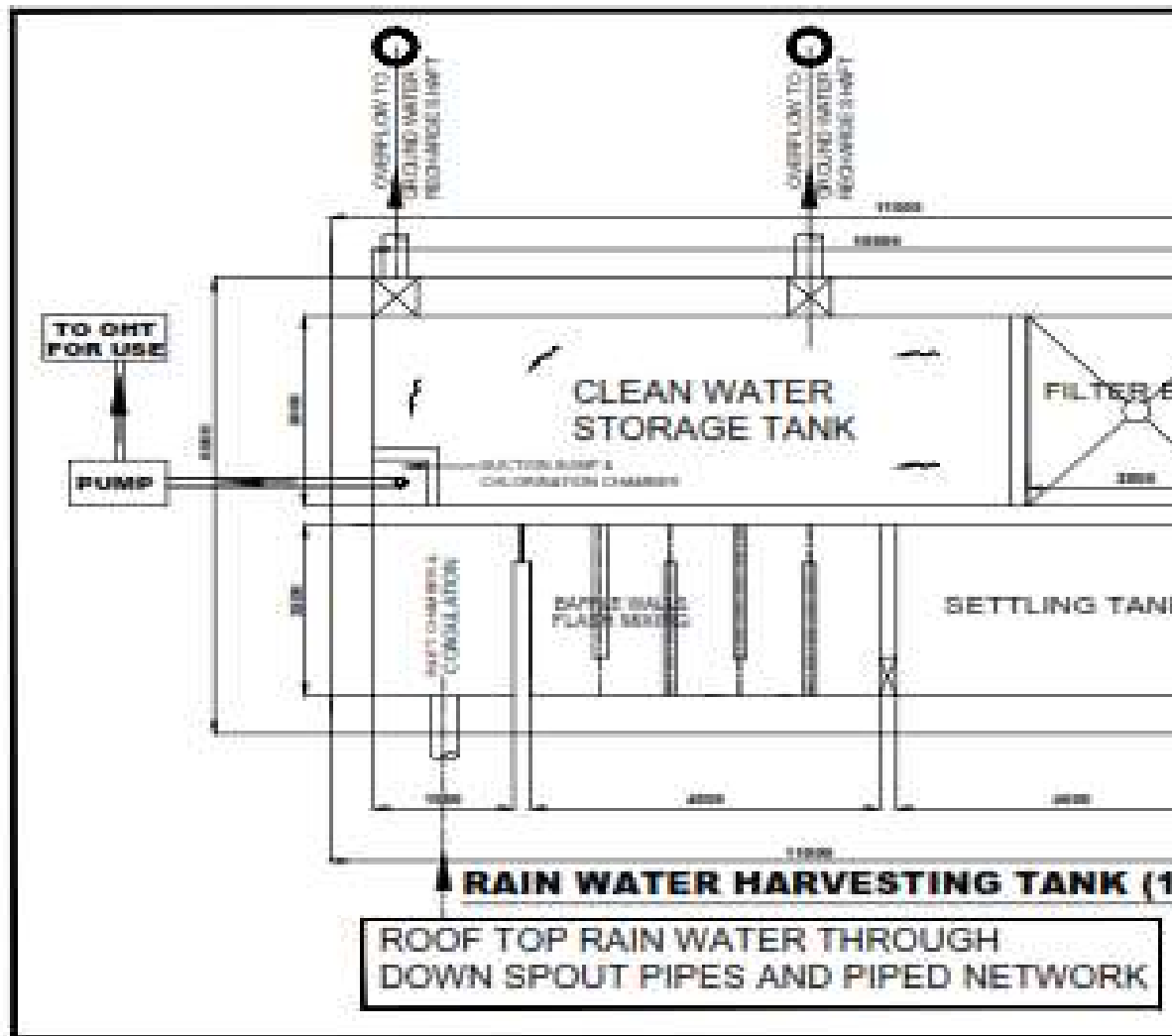
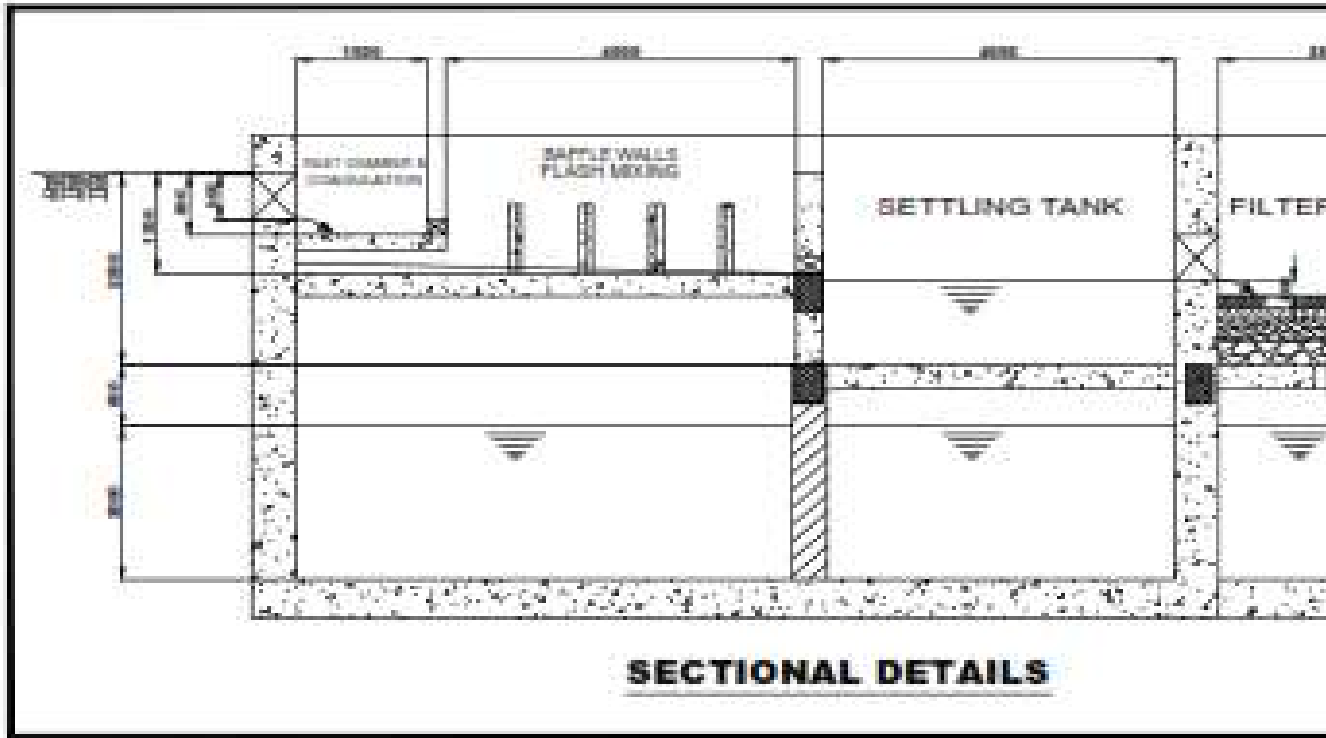
Address_____

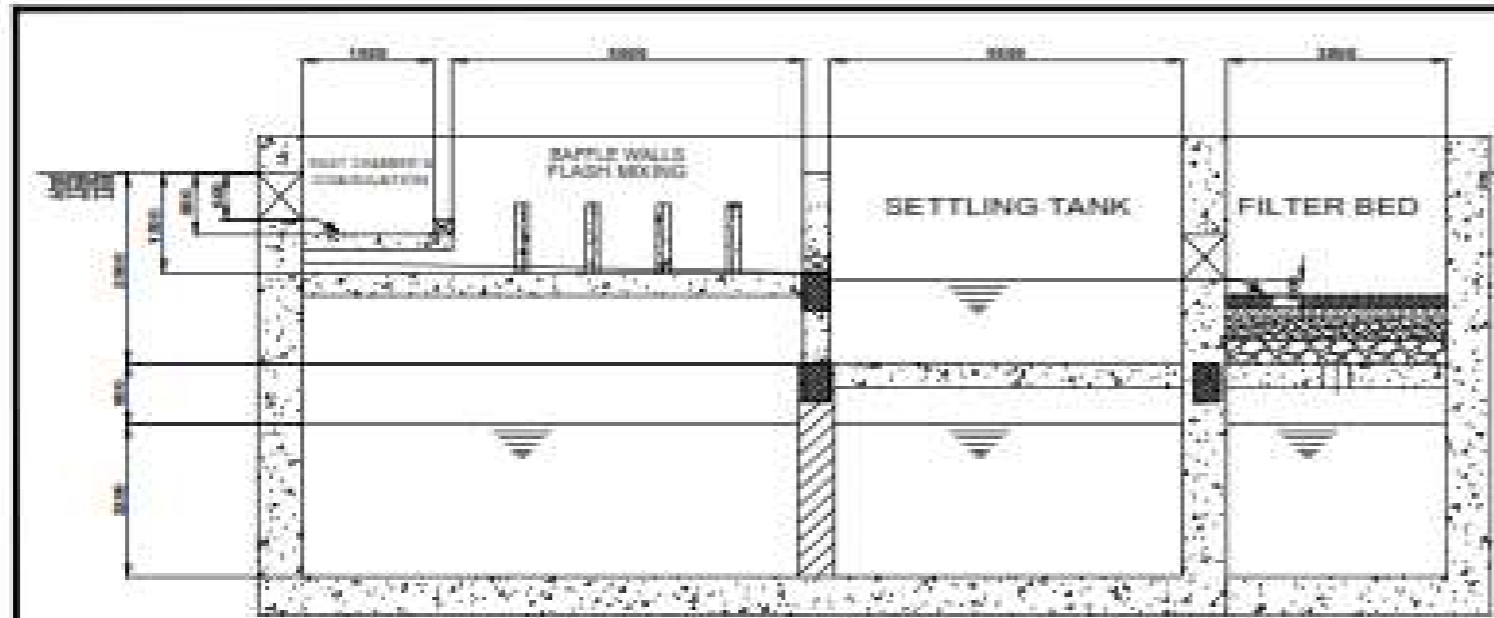
Date_____

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.

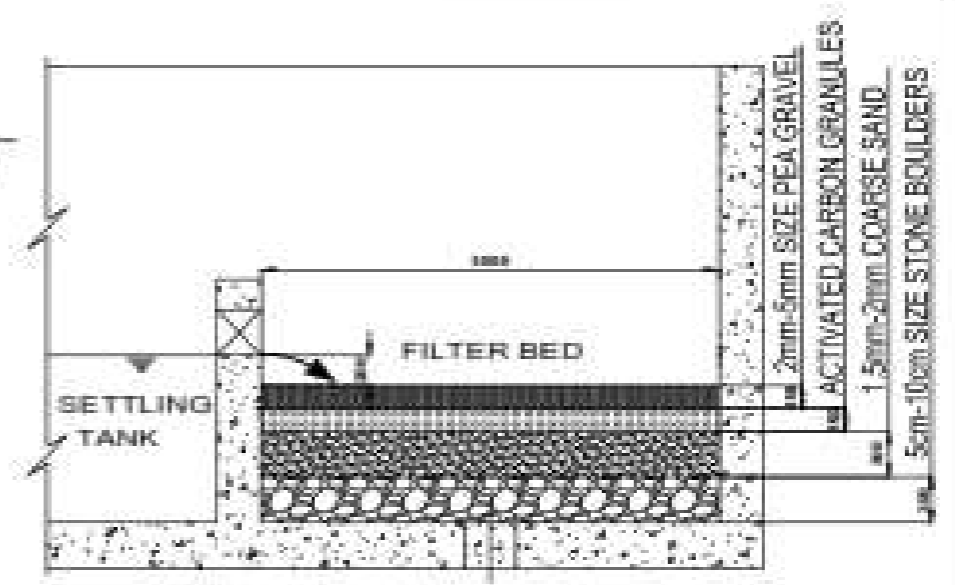
Annexure A:
Design & Drawings

Typical Diagrams are given below: Working drawings will be provided upon award of contract.

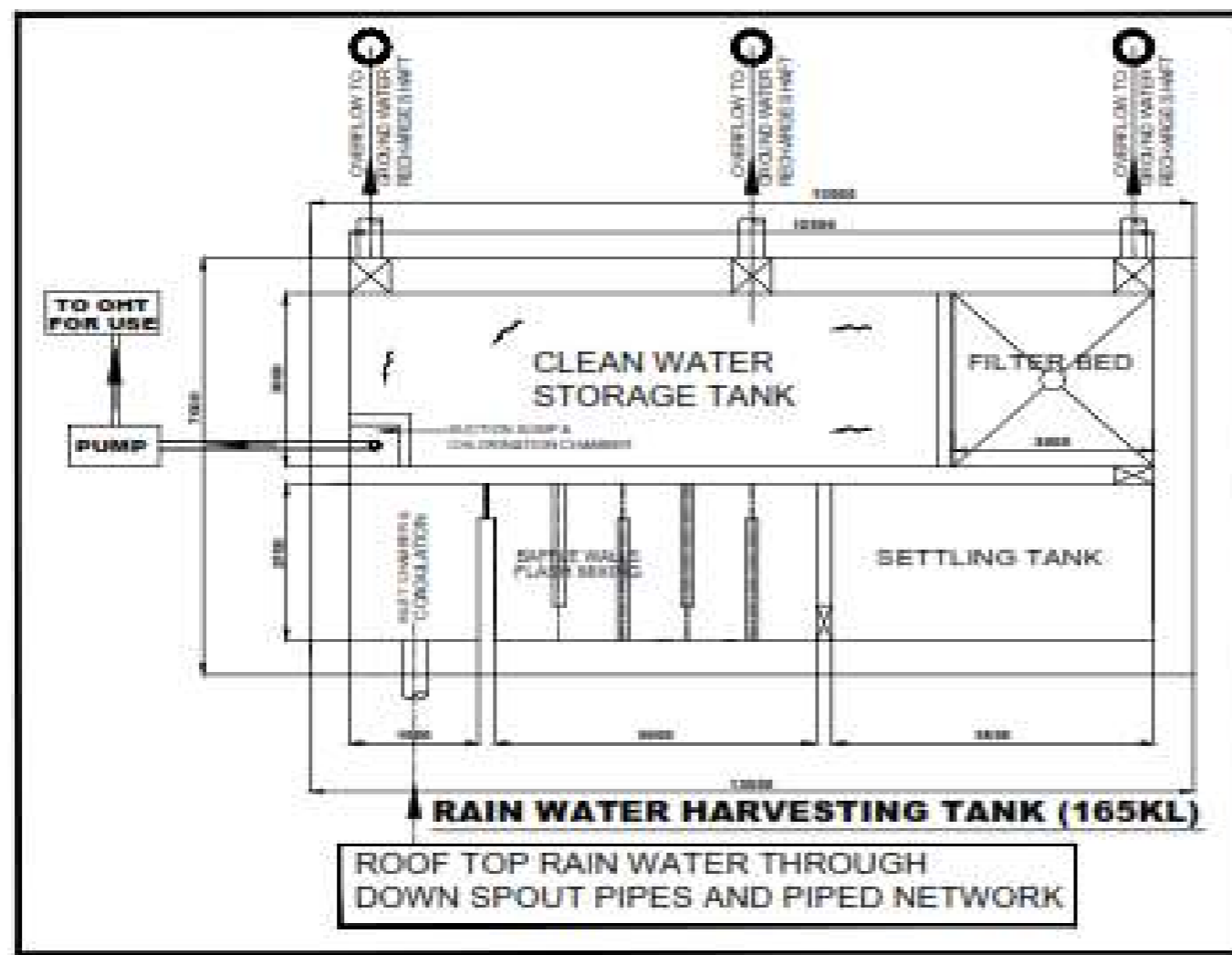




SECTIONAL DETAILS



SECTION THROUGH FILTER BED



TYPE - 2

| DATE | REV | DESCRIPTION | DRN | CKD | APD |
|----------|-----|------------------------|------|------|-----|
| 14.03.18 | 0 | ISSUED FOR INFORMATION | GYSR | GYSR | MNS |

PMC
REPL
The Power of Storage
 Rudrabhishek Enterprises Pvt. Ltd.
 A - 6, SECTOR - 58 NOIDA - 201303, U. P.
 PH 0120 - 4022333 FAX 0120 - 4022301

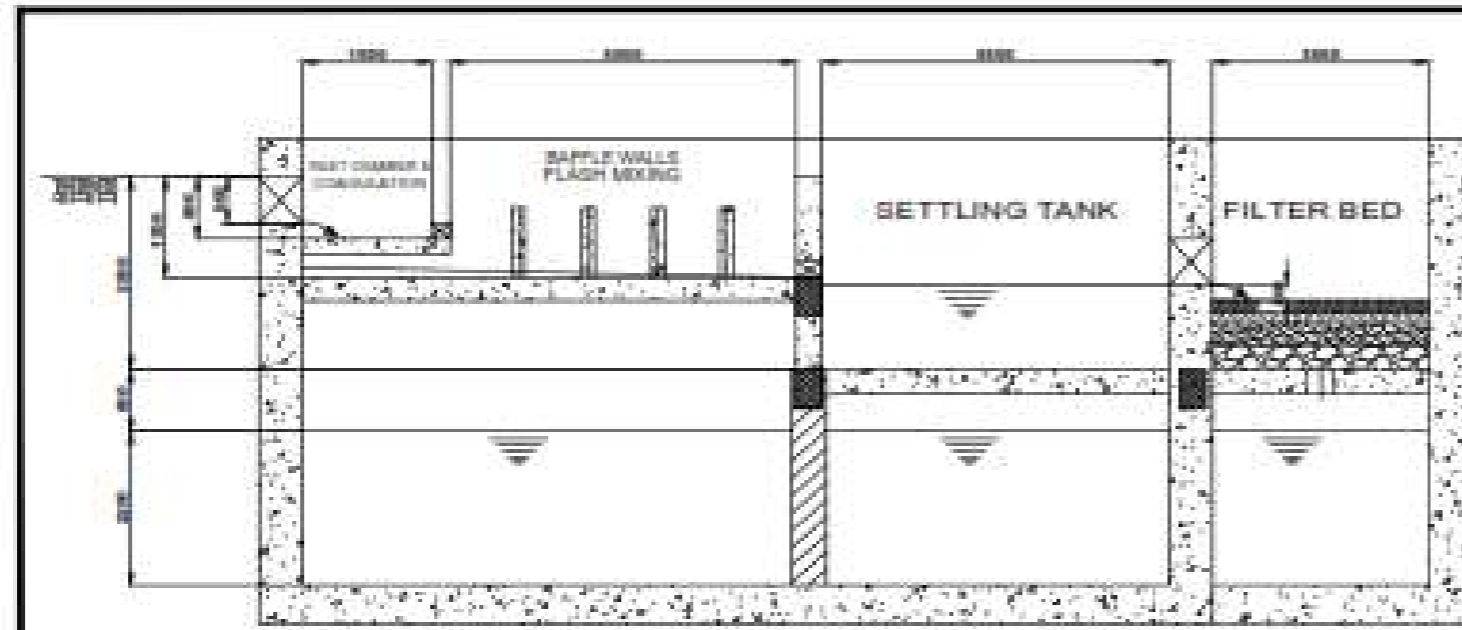
CLIENT

KANPUR SMART CITY LTD

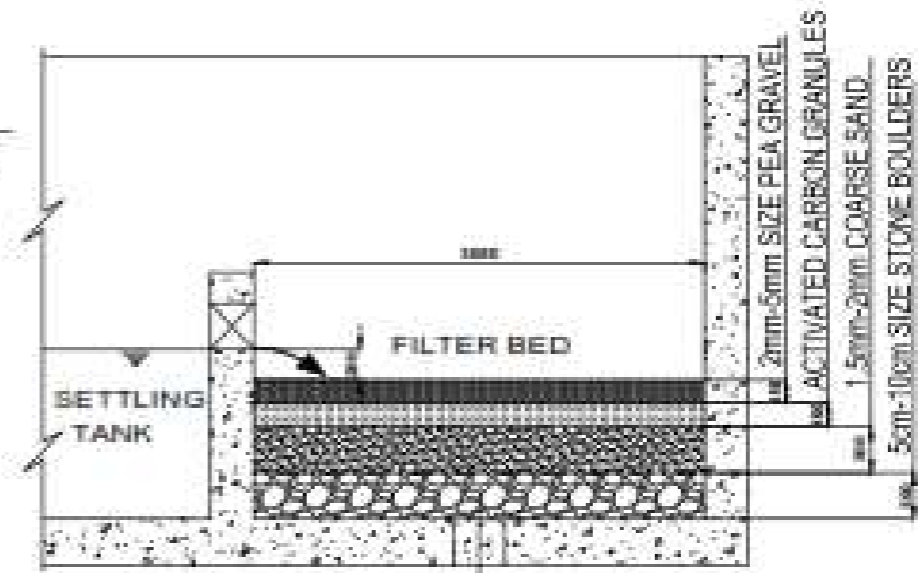
SUB-PROJECT
ROOF TOP RAIN WATER HARVESTING FOR BUILDINGS IN ABD AREA

TITLE
SCHEMATIC DETAILS OF RAIN WATER HARVESTING SYSTEM

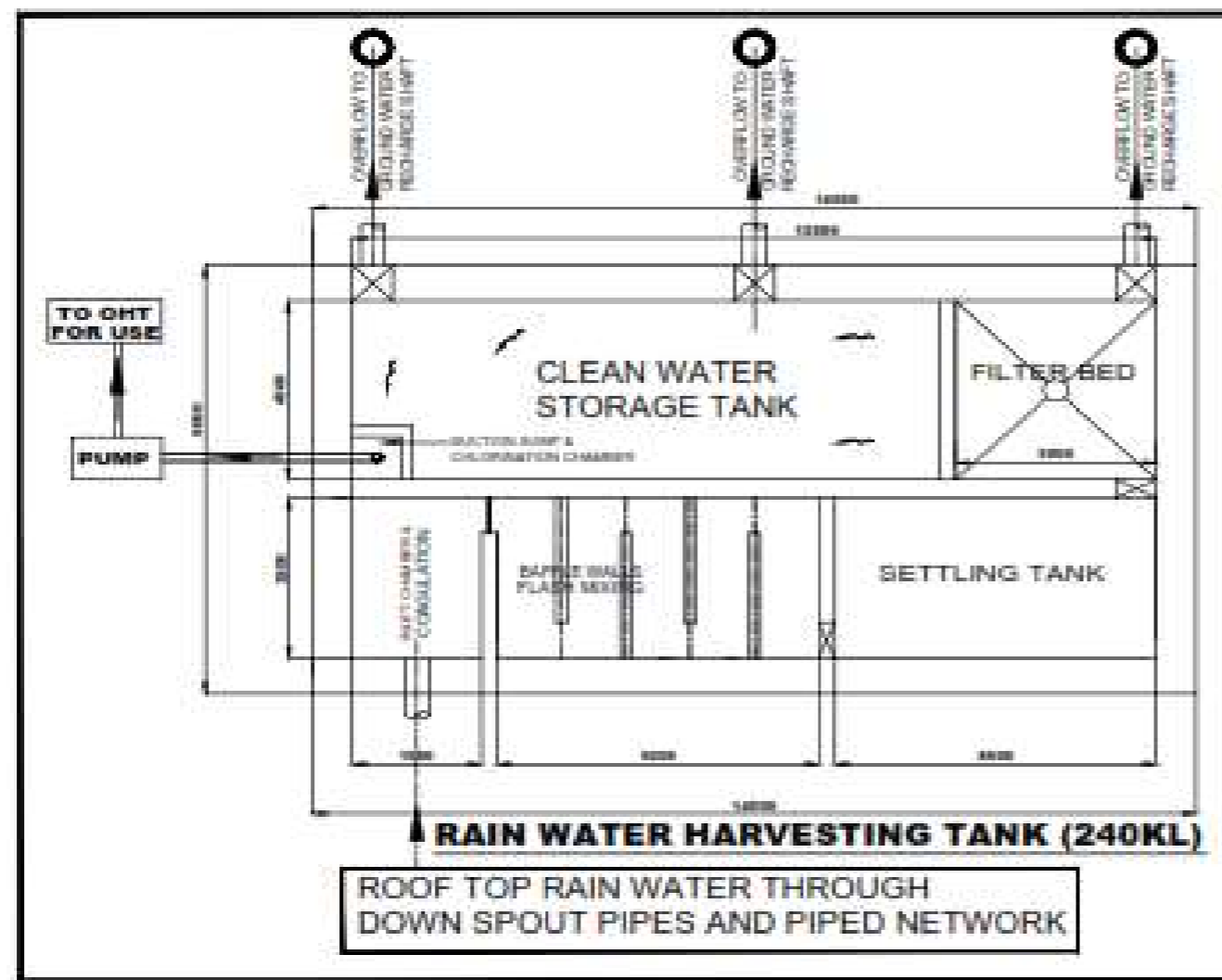
| DRAWING NO. | SCALE | REV. NO. |
|-----------------------|-------|----------|
| KSCL-REPL-CIV-DWG-007 | 1:100 | R0 |



SECTIONAL DETAILS



SECTION THROUGH FILTER BED



TYPE - 3

| DATE | REV. | DESCRIPTION | DRN | CRD | APP |
|----------|------|------------------------|------|------|-----|
| 14.03.19 | 0 | ISSUED FOR INFORMATION | GVSR | GVSR | MNS |



Rudrabhishek Enterprises Pvt. Ltd.
A - 6, SECTOR - 58 NOIDA - 201303, U. P.
PH 0120 - 4022333 FAX 0120 - 4022301

CLIENT



KANPUR SMART CITY LTD

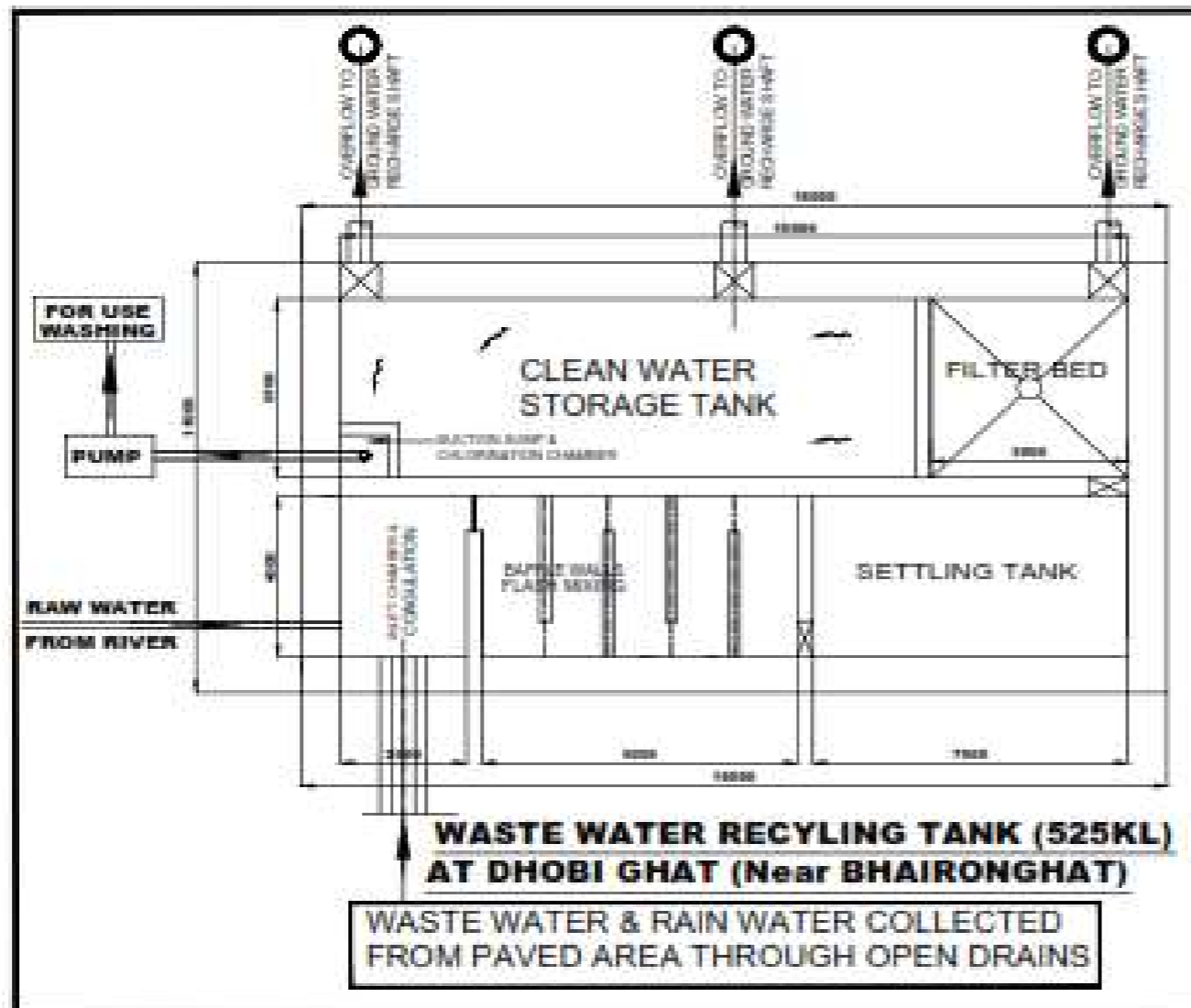
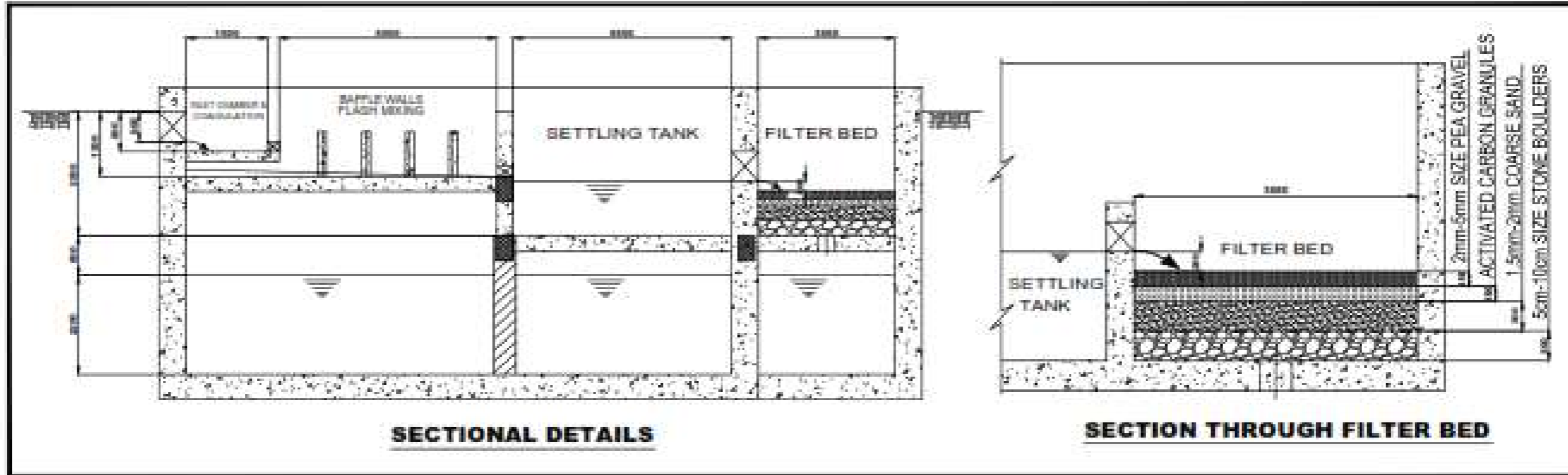
SUB-PROJECT

ROOF TOP RAIN WATER HARVESTING FOR BUILDINGS IN ABD AREA

TITLE

SCHEMATIC DETAILS OF RAIN WATER HARVESTING SYSTEM

| DRAWING NO. | SCALE | REV. NO. |
|------------------------------|--------------|-----------|
| KSCL-REPL-CIV-DWG-008 | 1:100 | R0 |



TYPE - 4

| DATE | REV. | DESCRIPTION | DRN | CRD | APD |
|----------|------|------------------------|------|------|-----|
| 14.03.19 | 0 | ISSUED FOR INFORMATION | GVSR | GVSR | MNS |

PMC
REPL
 The Power of Knowledge
 Rudrabhishek Enterprises Pvt. Ltd.
 A - 6, SECTOR - 58 NOIDA - 201303, U. P.
 PH 0120 - 4022333 FAX 0120 - 4022301

CLIENT

KANPUR SMART CITY LTD

SUB-PROJECT
WASTE WATER RECYLING IN ABD AREA

TITLE
SCHEMATIC DETAILS OF WASTE WATER RECYLING SYSTEM IN DHOBI GHAT, NEAR BHAIRONGHAT

| | | |
|------------------------------|--------------|-----------------|
| DRAWING NO. | SCALE | REV. NO. |
| KSCL-REPL-CIV-DWG-009 | 1:100 | R0 |