

Jabalpur Smart City Limited (M. P.)

REQUEST FOR PROPOSAL

For

Design, Development and implementation of Rain Water Harvesting system based on Advance Rain Water Harvesting Technology at various locations in Jabalpur City including operation & maintenance of project for 5 years

NIT Number and Date : JSCL/2019/89/ADM/2019/11

Date of NIT : 05/02/2019



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JABALPUR SMART CITY LIMITED

Manas Bhawan, Wright Town, Jabalpur; M.P.-482001,

Website: www.jscljabalpur.org.

Contact : admin@jscljabalpur.org, ceojscl@mpurban.gov.in, Mob. 7611136800

Ref No. JSCL/2018/89/ADM/2019/11

Date : 05-02.2019

NOTICE INVITING TENDER (NIT)

Jabalpur Smart City Limited Online Proposal for "Design development and implementation of rain water harvesting system based on advance rain water harvesting technology at various location in Jabalpur City including operation and maintenance of project for 5 years". Details of tender can be viewed on www.jscljabalpur.org. & www.mptenders.gov.in

Chief Executive Officer Jabalpur Smart City Limited

SECTION-1

1. NOTICE INVITING TENDER

NOTICE INVITING TENDER

Office of Jabalpur Smart City Limited,

Manas Bhawan, Beside Wright Town Stadium, Wright Town Jabalpur

NOTICE INVITING e-TENDER (NIT)

JSCL invites online percentage rate /item rate tender as per schedule as under:

Tendering Document No.	:	
Name of the Work	:	Design, Development and implementation of Rain Water Harvesting system based on Advance Rain Water Harvesting Technology at various locations in Jabalpur City including operation & maintenance of project for 5 years.
Brief Scope of Work	:	Design, Development and Implementation of Rain Water Harvesting System based on advanced Technology at various Locations in Jabalpur City.
Estimated Cost	:	Rs. 4.59. cr
Period of Completion	:	(Total 12 Months including raining season for Execution and (60 Months for O&M after commissioning of Project)
Earnest Money Deposit	:	Rs 4,59,000/- (four lacs fifty nine thousand)
Non-refundable cost of e- Tender Document	:	15000/-
Purchase of Tender Start Date	:	05/02/2019
Purchase of Tender End Date	:	25/02/2019
Last date & time of submission of Online Tender(Bid Submission)	:	27/02/2019 17:30 Hrs

Period during which hard copy of the documents as per NIT shall be submitted.(With all technical credentials)	:	01/03/2019 17:30 Hrs
Date & Time of Opening of technical Tender	:	01/03/2019 17:45 Hrs
Date & Time of Opening of Financial Tender	:	Will be Intimated later to successful Bidder
Validity of offer	:	180 days from the date of Submission of price bid
Pre-Tender Meeting & Venue	:	15/02/2019 at 15.00 Hrs. At JSCL, Office, Manas bhavan,. Jabalpur

The tender document can be downloaded from www.mptenders.gov.in “Corrigendum, if any, would appear only on the www.mptenders.gov.in web site and not to be published in any News Paper”.

The Bidder if required may submit queries in writing on

E-mail Id. ceojscl@mpurban.gov.in & admin@jscljabalpur.org before 15/02/2019 up to 23:59 Hrs.

2. INSTRUCTION TO BIDDER:

The invitation for bids is open to all eligible bidders who may be proprietary firms, partnership firms or companies registered under company's act 1956 and meeting following criteria;

PERSONNEL CAPABILITY

Contractor must produce documentary evident having the following staff on their establishment at least six months prior to submission of bid and during the duration of contract and should submit undertaking stating that this staff or equivalent will be deployed on site after award of contract as per necessity and instruction of Engineer in Charge. Key personnel should have experience in similar type of work i.e in **Rain Water harvesting works**.

S. No.	Position	Nos.	Experience In Similar Works [years]
1	Project Manager –Multidisciplinary (Graduate Engineer)	1	5-10
2	Design Manager (Graduate Engineer)	1	5-10
3	Water Resource Engineer (Graduate Engineer)	1	5-10
4	Safety Engineer (Graduate Engineer)	1	5

ELIGIBLE PLANT, EQUIPMENT AND SERVICES

It is desired that the successful bidder selects a manufacturer for supply of equipment from the list of preferred experienced manufacturers given in Section-7 of the Bid document.

3. ELIGIBILITY CRITERIA FOR BIDDER:

PRE-QUALIFICATIONS CRITERIA

- The bidder shall be proprietary firms, partnership firms or companies registered under company's act 1956 in India and should have established office in India since last 3 years.
- Bidder should have satisfactorily completed at least one similar nature of works during the last seven years.
- The bidder should be manufacture or authorized dealer for polymer structure (cross-wave) and should have Manufacturer Authorization Certificate.
- JV/ Consortium is allowed (Maximum Two including lead member).

- e. The Lead Bidder or Consortium/ JV should have Average Annual Turnover of 30% of the Estimated Project Cost during the last three financial years FY 2015-16, 2016-17, 2017-18 (as per the last published audited balance sheets)
- f. Turnover should be calculated as total payments received by the Bidder for contracts completed or under execution.

4. DOCUMENTS COMPRISING THE BID:

The Bidders should additionally submit the following details in their Bid along with documents mentioned in instruction to bidder and eligibility criteria for bidder but not limited to the same:

1. An Organization Chart of administration and execution of the contract showing the deployment of key personnel at Site with individual tasks
2. Copies of original documents defining the constitution or legal status, place of registration and principal place of business; written Power of Attorney authorizing the signatory of the bid to commit and bind the Bidder, details of arbitrations and litigations.
3. A letter of authority to seek references from the bidders' bankers and previous / existing Employer's.
4. Proposed general programme (Proposed Schedule and cash flow estimate in percentage form only) / method statements / Quality Plan / Site Management Plan in sufficient detail to demonstrate the adequacy of the bidder's proposals to meet the technical specifications and the completion time referred to in bid document.
5. All the document in support for meeting the Qualification Criteria
6. Signed copy of Pre-Bid Meeting held, if any.
7. Copies of all schedules, Technical Specifications and Deviations, if any, drawings, literature, brochures.
8. Proposed Safety plan and procedures that shall be followed during the execution of the Works
9. Experience in handling Similar Projects to be supported by WO/PO Copies, Project Completion certificate, Project Status Report (duly certified by respective authority) and Performance Certificates from clients.
10. The co polymer rainwater harvesting structure should be monolithic in installation with a binding layer on top to distribute load equally.

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

- (a) Made misleading or false representations in the forms, statements and attachments submitted by them which comes to the knowledge of Employer; and/ or;
- (b) Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, financial failures, etc.

Evaluation Criteria:

The lowest evaluated rates including O&M for Five years will be considered at the time of evaluation.

ANNEXURE - I

5. MEMORANDUM

Sl. No.	Description	Cl. No. of NIT/ITB/Clauses of Contract (CC)	Values/Description to be Applicable for Relevant Clause (S)
1)	Name of Work		Construction of Modular Type Rain Water Harvesting / Storm Water Management System by using Copolymer based Cross Wave Technology at various locations in Jabalpur City including operation & maintenance of project for 3 years
2)	Client/Owner		Jabalpur Smart City Ltd Ltd.
3)	Type of Tender		Engineering, Procurement & Construction (EPC) Basis /Item rate
4)	Earnest Money Deposit		<i>Rs 4,59,000/- [four Lacs fifty nine thousand only]</i>
5)	Estimated Cost		<i>Rs. 4.59 Cr. (four Crore fifty nine lacs Lacs only) (Capex)</i>
6)	Time allowed for Completion of Work		<i>(15 Months including raining season for Execution and as per schedule of Smart city building projects) and (60 Months for O&M After commissioning of project)</i>
7)	Mobilization Advance		10% of contract value (If required by Selected Bidder)
8)	Interest Rate of Mobilization Advance		Simple Interest Rate of 10 % Percent only) (Per Annum)
9)	Schedule of rates applicable		UADD SOR 2012 and NON SOR Items.
10)	Validity of Tender		180 days from the date of Submission of price bid
11)	Performance Guarantee		5.00 % (Five Percent Only) of contract value within 30 days from the issue of Letter of Intent

12)	Security Deposit/Retention Money		5.00% (Five Percent Only) of the gross value of each running bill.	
13)	Time allowed for starting the work		The date of start of contract shall be reckoned from 10 days after the date of work order.	
14)	Deviation limit beyond as per tender document except foundation.		Building work as per requirement.	Annual repair & maintenance of buildings As per requirement.
			Note:-The Deviation Limit of Building Work shall also apply for combined works (Building).	
15)	Deviation limit beyond as per tender document shall apply for Foundation		Building work as per requirement	Annual repair & maintenance of buildings as per requirement
			Note:-The Deviation Limit of Building Work shall also apply for combined works	
16)	Escalation		All rates as per Bill of Quantities (BOQ) quoted by contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. No escalation shall be applicable on this contract.	
17	Operation and Maintenance Period		Three (3) years after successful commissioning of all Tendered works	
17)	Defects Liability Period		Two (2) years after successful commissioning of all works. However Comprehensive Operation and maintenance should be done for operation and maintenance period i.e 5 years	

The intending Bidder must read the terms and conditions of JSCL carefully. He should only submit his tender if he considers himself eligible and he is in possession of all the documents required. Information and Instructions for Bidders posted on Website(s) shall form part of tender Document.

The Tender Document as uploaded can be viewed and downloaded free of cost by anyone including intending Bidder. But the tender can only be submitted after uploading the mandatory scanned documents.

The Bidder shall submit the Technical BID & Financial Bid online through e-procurement portal www.mptenders.gov.in in comprising of the following documents along with supporting documents as appropriate:

Checklist for Online Submission: Envelope (A, B and C)

A. Envelope-A will contain:

1. Proof of e-payment towards cost of tender document/ Acknowledgement towards cost of tender fee submission
2. Proof of online payment through e-portal www.mptenders.gov.in/ or Bank Guarantee of any Nationalized or Commercial Scheduled Bank against EMD in favor CEO, Jabalpur Smart City Ltd Ltd shall be as per Notice Inviting e- tender.

B. Envelope-B will contain:

1. Scanned copy of all approved/authenticated "Eligibility Criteria for Bidder" documents as per Para of this RFP.
2. Letter of Acceptance of tender condition unconditional as per format enclosed
3. Certificate of Financial Turnover duly certified by CA as indicated above.
4. GST registration number, EPF registration, PAN No.
5. All pages of the entire Corrigendum (if any) duly signed by the authorized person.
6. Affidavit as per "Appendix-O" of tender document.
7. Acceptance letter and Affidavit/Undertaking for Blacklisting/ Debar.
8. Should submit the list of tools plant and machinery.
9. If applicable, Joint venture agreement
10. Any other documents as asked in RFP document.

C. Envelope-C will contain:

The Financial Bids shall be uploaded online only strictly in the prescribed format.

If any condition or conditional rebate is offered by the Bidder, their tender shall summarily be rejected.

The Bidders are required to quote strictly as per terms and conditions, specifications, standards given in the tender documents and not to stipulate any deviations.

After submission of the tender the Bidder can re-submit revised tender any number of times but before last time and date of submission of tender as notified.

When it is desired by JSCL to submit revised financial tender then it shall be mandatory to submit revised financial tender. If not submitted then the tender submitted earlier shall become invalid. On opening date, the Bidder can login and see the tender opening process. Contractor can upload documents in the form of JPG format and PDF format.

If the contractor is found ineligible after opening of tenders, his tender shall become invalid and cost of tender document and processing fee shall not be refunded.

If any discrepancy is noticed between the documents as uploaded at the time of submission of tender and hard copies as submitted physically by the contractor the tender shall become invalid and cost of tender document and processing fee shall not be refunded.

Notwithstanding anything stated above, JSCL reserves the right to assess the capabilities and capacity of the Bidder to perform the contract, in the overall interest of JSCL. In case, Bidder's capabilities and capacities are not found satisfactory, JSCL reserves the right to reject the tender.

Examination of Technical Bids and Determination of Responsiveness:

1. Prior to detailed evaluation of Technical Bids, the Employer will determine whether each Bid
 - a. meets the eligibility criteria defined in Clause
 - b. has been properly signed by an authorized signatory (accredited representative) holding power of Attorney in his favor.
 - c. is accompanied by the required Bid security and;
 - d. is responsive to the requirements of the Bidding documents.

2. A substantially responsive Technical Bid is one which conforms to all the terms, conditions and specification 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, the Employer's rights or the Bidder's obligations under the Contract; or

3. If a Technical 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.

Instructions for financial bid submission-

In case of Percentage Rate Tender, Contractor must ensure to quote single percentage rate in attached financial bid format. Quote should be in percentage higher or below on the SOR Rates the same is to quoted in the form of decimal only. For example if contractor wants to quote 5 percent higher then he have to quote 1.05 and if he wants to quote 5 [percent below he have to quote 0.95 in given column of financial bid sheet.

In case of Item Rate Tender, price shall be entered against each item in the Bill of Quantities / Schedule of Quantities. The cost of item against which the contractor has failed to enter a

rate or price shall be deemed to be covered by rates and prices of other items in Bill of Quantities / Schedule of Quantities and no payment shall be made for the quantities executed for items against which rate has not been quoted by the contractor.

In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the Bidder, rate of such item shall be treated as "0" (ZERO).

- a. Financial Bid format is uploaded in Excel Format in www.mptenders.gov.in. At the time of financial bidding, bidder is requested to download the file, and update the same.
- b. For SOR items bidder need to quote 1 plus percentage higher of below the quoted rate for example if bidder wants to quote 5% higher the SOR price then he have to quote 1.05 and similarly if he wants to quote 5% below the SOR price then he have to quote 0.95.
- c. For Non SOR items bidder can quote for individual item rates in respective financial bid sheet.
- d. Bidders are requested to check final figure in all the totals of all sheets. JSCL is not responsible for errors in the financial bid document.
- e. Bidders are required to upload the updated financial bid in the prescribed excel format in the www.mptenders.gov.in at the time of final financial bid submission.

SECTION-2

1. Instruction to Bidder (ITB)

A. GENERAL INSTRUCTIONS:

2.1. *General terms of Bidding-*

- a. No Bidder shall submit more than one BID for the Project.
- b. The Feasibility Report / Preliminary Project Report of the Project has been assessed however the Bidders are expected to carry out their own surveys, investigations and other Preliminary examination of the Project before submitting their Bids. Nothing contained in the attached drawings/BOQ shall be binding on the JSCL nor confer any right on the Bidders, and the JSCL shall have no liability whatsoever in relation to arising out of any or all contents of TENDER.
- c. Notwithstanding anything to the contrary contained in this RFP, the Preliminary terms specified in the draft Agreement shall have overriding effect; provided, however, that any conditions or obligations imposed on the Bidder hereunder shall continue to have effect in addition to its obligations under the Agreement.
- d. The BID shall be furnished in the financial bid format attached separately in the Excel format
 - a. BID to be quote 1 plus % above or below (for Example. If want to quote 5% above then write 1.05 and if want to quote 5% below then write 0.95) for the SOR sheets.
 - b. BID shall be quoted item wise in the given excel sheet for the NON SOR items.
- e. The Bidder shall deposit a BID Security (EMD) of (Rs. 4,59,000/- (four lakhs fifty nine Thousand rupees only) in accordance with the provisions of this RFP. The Bidder has to provide the BID Security (EMD) through online payment or in the form of a Bank Guarantee acceptable to the JSCL, as per format.
EMD submitted shall be in in the Name of
Executive Director, Jabalpur Smart City Limited payable at Jabalpur
- f. The validity period of the Bank Guarantee, shall not be less than 180 (one hundred and eighty) days from the BID Due Date, inclusive of a claim period of 60 (Sixty) days, and may be extended as may be mutually agreed between the JSCL and the Bidder.
- g. The BID shall be summarily rejected if it is not accompanied by the BID Security. The BID Security shall be refundable no later than 150 (one hundred and fifty) days from the BID Due Date except in the case of the Selected Bidder whose BID Security shall be retained till it has provided a Performance Security under the Agreement.
- h. The Bidder should submit a Power of Attorney as per the format, authorizing the signatory of the BID to commit the Bidder.
- i. Any condition or qualification or any other stipulation contained in the BID shall render the BID liable to rejection as a non-responsive BID.
- j. The BID and all communications in relation to or concerning the Bidding Documents and the BID shall be in English language.
- k. The documents including this RFP and all attached documents, provided by the JSCL

- are and shall remain or become the property of the JSCL and are Transmitted to the Bidders solely for the purpose of preparation and the submission of a BID in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their BID.
- l. The provisions of this Clause shall also apply mutatis mutandis to BIDs and all other documents submitted by the Bidders, and the JSCL will not return to the Bidders any BID, document or any information provided along therewith.
 - m. This RFP is not transferable.
 - n. Any award of Project pursuant to this RFP shall be subject to the terms of Bidding Documents and also fulfilling the criterion as mentioned in tender document.
 - o. While bidding is open to persons from any country, the following provisions shall apply then the Eligibility of such Bidder shall be subject to approval of the JSCL from national security and public interest perspective. The decision of the JSCL in this behalf shall be final and conclusive and binding on the Bidder. The holding or acquisition of equity or control, as above, shall include direct or indirect holding/ acquisition, including by transfer, of the direct or indirect legal or beneficial ownership or control, by persons acting for themselves or in concert and in determining such holding or acquisition, the JSCL shall be guided by the principles, precedents and definitions contained in the Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 1997, or any substitute thereof, as inforce on the date of such acquisition. The Bidder shall promptly inform the JSCL of any change in the shareholding, as above, and failure to do so shall render the Bidder liable for disqualification from the Bidding Process.
 - p. Notwithstanding anything to the contrary contained herein, in the event that the Bid Due Date falls within three months of the closing of the latest financial year of a Bidder, it shall ignore such financial year for the purposes of its Bid and furnish all its information and certification with reference to the 5 (five) years or 1 (one) year, as the case may be, preceding its latest financial year. For the avoidance of doubt, financial year shall, for the Purposes of a Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business. Latest Financial Year will be (2017-2018)
 - q. Any entity which has been barred by GOI or Govt. of Madhya Pradesh for the works and the bar subsists as on the Bid Due Date, would not be eligible to submit the BID, bidder need to submit Affidavit regarding the same.
 - r. The JSCL reserves the right to reject an otherwise eligible bidder on the basis of the information provided in tender document. The decision of the JSCL in this case shall be final.

2.2. Eligibility and qualification requirements of Bidder

a. For determining the eligibility of Bidder the following shall apply:

- a. An Bidder shall not have a conflict of interest (the "Conflict of Interest") that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified

- and liable for forfeiture of the BID Security or Performance Security as the case may be. A Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:
- b. A Bidder shall be liable for disqualification and forfeiture of BID Security, if any legal, financial or technical adviser of the JSCL in relation to the Project is engaged by the Bidder, its Member or any Associate thereof, as the case may be, in any manner formatters related to or incidental to such Project during the Bidding Process or subsequent to the (i) issue of the LOA or (ii) execution of the Agreement. In the even though such adviser is engaged by the selected Bidder or Contractor, as the case may be, after issue of the LOA or execution of the Agreement for matters related or incident alto the project, then notwithstanding anything to the contrary contained herein or in the LOA or the Agreement and without Prejudice to any other right or remedy or the JSCL, including the forfeiture and appropriation of the BID Security or Performance Security, as the case may be, which the JSCL may have there under or otherwise, the LOA or the Agreement, as the case may be, shall be liable to be terminated without the JSCL being liable in any manner whatsoever to the Selected Bidder or Contractor for the same. For the avoidance or doubt, this disqualification shall not apply where such adviser was engaged by the Bidder, its Member or Associate in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of this RFP. Nor will this disqualification apply where such adviser is engaged after a period of 3 (three) years from the date of commercial operation of the Project.

Other Instructions-

<p>On line percentage rate tenders on behalf of Owner/Client are invited for the work. The pre-qualification / enlistment of the contractors should be valid on the last date of submission of tenders. In case the last date of submission of tender is extended, the pre-qualification of contractor should be valid on the original date of submission of tenders</p>
<p>The work is estimated to__however, is given merely as a rough guide.</p>
<p>The tender document as uploaded can be seen on website www.mptenders.gov.in and can be downloaded free of cost.</p>
<p>Mode of Submission:</p> <p>Earnest Money Deposit</p> <p>Earnest Money Deposit of amount as mentioned in “NIT/ Memorandum (Annexure-I)” required to be submitted along <i>with</i> the tender shall be payable online through E-tendering portal www.mptenders.gov.in through NEFT/RTGS. The EMD shall be valid for minimum period of 180 (One Hundred Eighty) days from last day of submission of Tender.</p>

The EMD of all unsuccessful Bidders will be returned within thirty (30) days of the Award of the contract to successful Bidder through online portal.

Financial Bidding can be done through the excel sheet uploaded on www.mptenders.gov.in, which contains four sheets:

- 1 SOR
- 2 NON SOR

*BID to be quote 1 plus % above or below (for Example. If want to quote 5% above then write 1.05 and if want to quote 5% below then write 0.95) for SOR items.

*Rates for NON SOR item can be filled in the NON SOR sheet

*Rates can be quoted in the yellow highlighted cell of the financial bid

* Bidder should fill there company/organization name in the space provided (yellow *section*)

Interested Bidder who wish to participate in the tender has also to make following payments through online payment e-proc portal only.

Cost of Tender Document –Rs. 15,000/- To be submit online only/-

e-Tender Processing Fee – As applicable for www.mptender.gov.in portal, Cost of Tender Document and, e-Tender Processing Fee online payment shall be payee online Copy of pre- qualification/enlistment letter and certificate of work experience (if required) and other documents as specified in the tender shall be scanned and uploaded to the e-Tendering website within the period of tender submission.

Online technical tender documents submitted by intending Bidders shall be opened only of those Bidders, whose Earnest Money Deposit, Cost of Tender Document and e-Tender Processing Fee and other.

The tender submitted shall become invalid if: the Bidder is found ineligible.

The Bidder does not upload all the documents (including GST registration) as stipulated in the tender document. If any discrepancy is noticed between the documents as uploaded at the time of submission of tender and hard copies as submitted physically in the office of tender opening authority.

VALIDITY OF TENDER

The tender for the works shall remain open for acceptance for a period of One Eighty (180) days from the date of bid submission date. If any Bidder withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the JSCL, then the JSCL shall, without prejudice to any other right or remedy, be at liberty to

<p>forfeit the said earnest money as aforesaid. Further the Bidders shall not be allowed to participate in the retendering process of work.</p>
<p>ACCEPTANCE OF TENDER</p> <p>JSCL reserves the right to reject any or all the tenders in part or full without assigning any reason whatsoever. JSCL does not bind itself to accept the lowest tender.</p>
<p>The tenders shall be strictly as per the conditions of contract. Tenders with any additional condition(s)/modifications shall be rejected.</p>
<p>The witnesses to the Tender/Contract Agreement shall be other than the Bidder/ Bidders competing for this work and must indicate full name, address, and status/occupation with dated signatures.</p>
<p>The acceptance of tender will rest with the JSCL who does not bind itself to accept the lowest tender and reserves to itself the right to reject any or all the tenders received without assigning any reason thereof. Tenders in which, any of the prescribed conditions are not fulfilled or found incomplete in any respect are liable to be rejected.</p>
<p>On acceptance of tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from Engineer-in-Charge or its authorized representative shall be intimated by the contractor within 07 days of issue date of Letter of Intents by JSCL.</p>
<p>The Bidder shall not be permitted to tender for works if his near relative is posted in the project office or concerned Office of the JSCL. The contractor shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any of the officers in JSCL. Any breach of this condition by the Bidder would render him liable to the withdrawal of the work awarded to him and forfeiture of Earnest Money and Security Deposit. This may also debar the contractor from tendering for future works under JSCL.</p>
<p>For the purpose of operation of this clause a near relative shall mean wife, husband, parents, grandparents, children, grandchildren, brothers, sisters, uncles, aunts, cousins and their corresponding in-laws.</p>
<p>The time of completion of the entire work, as contained in contract shall be as mentioned in "Memorandum - Annexure-I", which shall be reckoned from the 10th day after issue of the Letter of Intent by the JSCL.</p>
<p>Canvassing whether directly or indirectly, in connection with Bidders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.</p>

The tender award, execution and completion of work shall be governed by tender documents consisting of (but not limited to) Letter of Intent/Letter of work order, Bill of Quantities, Special Conditions of Contract, General Conditions of Contract, Specifications, Drawings. The Bidders shall be deemed to have gone through the various conditions including sub-soil water conditions, topography of the land, drainage and accessibility etc. or any other condition which in the opinion of contractor will affect his price/rates before quoting their rates. No claim whatsoever against the foregoing shall be entertained.

The drawings with the tender documents are Tender Drawing and are indicative only.

ADDENDA/CORRIGENDA

Addenda/Corrigenda to the tender documents may be issued prior to the date of submission of the tender to clarify or effect modification in specification and/or contract terms included in various tender documents. The Bidder shall suitably take into consideration such Addenda/Corrigenda while submitting his tender. The Bidder shall return such Addenda/ Corrigenda duly signed and stamped as confirmation of its receipt & acceptance and submit along with the tender document. All addenda/ Corrigenda shall be signed and stamped on each page by the Bidder and shall become part of the tender and contract documents.

SITE VISIT AND COLLECTING LOCAL INFORMATION

Before tendering, the Bidders are advised to visit the site, its surroundings to assess and satisfy themselves about the local conditions such as the working and other constraints at site, approach roads to the site, availability of water & power supply, application of taxes, duties and levies as applicable & any other relevant information required by them to execute complete scope of work. The Bidder may obtain all necessary information as to risks, weather conditions, contingencies & other circumstances (insurgencies etc.) which may influence or affect their tender prices. Bidder shall be deemed to have considered site conditions whether he has inspected it or not and to have satisfied himself in all respect before quoting his rates and no claim or extra charges whatsoever in this regard shall be entertained / payable by the JSCL at a later date.

ACCESS BY ROAD

Contractor, if necessary, shall build temporary access roads to the actual site of construction for the works at his own cost to make the site accessible. The Contractor shall maintain the same in motorable condition at all the times as directed by Engineer-in- Charge at his own cost. The contractor shall be required to permit the use of any roads so constructed by him for vehicles of JSCL or any other agencies/ contractors who may be engaged on the project site, free of cost. Non-availability of access roads or approach to site, for the use of the contractor shall in no case condone any delay in the execution of work nor be the cause for any claim for

compensation.

HANDING OVER & CLEARING OF SITE

The Contractor should note that area for construction may be made available in phases as per availability and in conjunction with pace of actual progress of work at site. The work may be required to be carried out in constrained situations. The work is to be carried out in such a way that the traffic, people movement, if any, is kept operative and nothing extra shall be payable to the contractor due to this phasing / sequencing of the work. The contractor is required to arrange the resources to complete the entire project within total stipulated time. Traffic diversion, if required, is to be done and maintained as per requirement of local traffic police or/and as per specification, by the contractor at his own cost and the contractor shall not be entitled for any extra payment, whatsoever, in this regard.

The efforts will be made by the JSCL to handover the site to the Contractor free of encumbrances. However, in case of any delay in handing over of the site to the Contractor, the JSCL shall only consider suitable extension of time for the execution of the work. It should be clearly understood that the JSCL shall not consider any revision in contract price or any other compensation whatsoever viz. towards idleness of contractor's labour, equipment etc. Old structures on the proposed site, if required, shall be demolished by the contractor properly at his own cost unless and otherwise mentioned elsewhere in the tender document. The useful material obtained from demolition of structures & services shall be the property of the owner/JSCL and these materials shall be stacked in workmanship like at the place specified by the Engineer-in-charge.

Necessary arrangement including its maintenance is to be made by the contractor for temporary diversion of flow of existing drain and road, as the case may be. The existing drain, road would be demolished, wherever required, with the progress of work under the scope of proposed project. The existing Road and Drain which are not in the alignment of the said project but are affected and/ or need to demolished during execution for smooth progress of the project, shall be rehabilitated to its original status and condition (including black topping) by the contractor at his own cost. The cost to be incurred by contractor in this regards shall be deemed to be included in the quoted rates of the bill of quantity items and contractor shall not be entitled for any extra payment whatsoever in this regard.

The information about the public utilities (whether over ground or underground)

like electrical/ telephone/ water supply lines, OFC Cables, open drain etc. is the responsibility of contractor to ascertain the utilities that are to be affected by the works through the site investigation.

The contractor shall be responsible to obtain necessary approval from the respective authorities for shifting/ re-alignment of existing public utilities. JSCL shall only assist the contractor for visioning in obtaining the approval from the concerned authorities.

Any services affected by the works must be temporarily supported by the contractor who must also take all measures reasonably required by the various bodies to protect their services and property during the progress of works. It shall be deemed to be the part of the contract and no extra payment shall be made to the contractor for the same.

SCOPE OF WORK

The scope of work covered in this tender shall be as per the Bill of Quantities, specifications, drawings, instructions, orders issued to the contractor from time to time during the pendency of work. The drawings for this work, which may be referred for tendering, provide general idea only about the work to be performed under the scope of this contract. The Work Shall be executed on Engineering, Procurement & Construction (EPC) Basis. Details and drawings given in Tender document is for information purpose only and successful bidder shall undertake confirmatory survey for accuracy and completeness of data. It is in scope of successful Bidder to undertake all Site surveys, Hydro-Geological investigations, obtaining all required approvals from the relevant authorities, Carry out Shop Drawings, Further detailing of Rain water harvesting works

...etc as per Employers requirement and submit the same to client for review and approval, Prepare Good for Construction Drawings, submit maintenance manual to client for approval before start of Maintenance period. The successful bidder shall have to prepare and submit „As Built Drawings“ depicting the exact construction carried out on site, in soft and hard copy format.

Statutory and other charges for getting various required approvals shall be in scope of Successful bidder.

The quantities of various items as entered in the “BILL OF QUANTITIES” are indicative only and may vary depending upon the actual requirement. The contractor shall be bound to carry out and complete the stipulated work irrespective of the variation in individual items specified in the bill of quantities. The variation of quantities will be governed as per conditions of contract. Also refer section 7 for detailed Scope of work.

APPROVAL OF TEMPORARY / ENABLING WORKS

The setting and nature of all offices, huts, access road to the work areas and all other temporary works as may be required for the proper execution of the works shall be subject to the approval of the Engineer- in-charge. All the equipment’s, labour, material including cement, reinforcement and the structural steel required for the enabling/

temporary works associated with the entire Contract shall have to be arranged by the Contractor only. Nothing extra shall be paid to the Contractor on this account.

CLARIFICATION AFTER TENDER SUBMISSION

Bidder's attention is drawn to the fact that during the period, the tenders are under consideration, the Bidders are advised to refrain from contacting by any means, the JSCL and/or his employees/ representatives on matters related to the tender under consideration and that if necessary, JSCL will obtain clarifications in writing or as may be necessary. The tender evaluation and process of award of works is done by duly authorized Tender Scrutiny Committee and this committee is authorized to discuss and get clarification from the Bidders.

ORDER OF PRECEDENCE OF DOCUMENTS

In case of difference, contradiction, discrepancy, with regard to conditions of contract, Specifications, Drawings, Bill of quantities etc. forming part of the contract, the following shall prevail in order of precedence.

Letter of Intent, along with statement of agreed variations and its enclosures, if any.
Description of Bill of Quantity / Schedule of Quantities.

Special Condition of Contract.

Technical specifications (General, Additional and Technical Specification) as given in Tender documents.

General Conditions of Contract. Drawings

UADD, MP PWD & CPWD specifications (as specified in Technical Specification of the Tender) update with correction slips issued up to last date of **receipt of tenders**.

Relevant B.I.S. Codes

2. FINANCIAL BID

Online tender filled in either percentage plus or minus Bid to be quoted 1 plus % above or below (for example: If want to quote 5% above the write 1.05 and if want to quote 5% below then write 0.95) in the given uploaded Excel Sheet format

For NON SOR item sheet individual rates has to be quoted for each item in the given uploaded excel sheet

(If entered „0“ it will be treated as „at par“. By default the value is zero only).

Note: In case of rebate/premium of 15% and above as quoted by the Bidder, the rate analysis of major items shall be submitted by L1 and L2 bidder after demand notification by e-mail to bidders by concerned EIC.

BID SECURITY OR EMD

The Bidder shall furnish, as part of the Bid, Bid Security/EMD, in the amount specified in the Bid Data Sheet. This bid security shall be in favor of the authority mentioned in the Bid Data Sheet and shall be valid till the validity of the bid.

Any bid not accompanied by an acceptable Bid Security and not secured as indicated in sub-clause mentioned above, shall be rejected by the Employer as non-responsive.

The Bid Security of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Security Deposits.

The Bid Security may be forfeited:

- a. if the Bidder withdraws the Bid after bid opening (opening of technical qualification part of the bid during the period of Bid validity;
- b. in the case of a successful Bidder, if the Bidder fails within the specified time limit to:
 - i. sign the Agreement;
and/or
 - ii. Furnish the required Security Deposits.

No rejections and forfeiture shall be done in case of curable defects,. For non-curable effects the 10% of EMD shall be forfeited and bid will be liable for rejection.

Failure of the bidder to submit the documents will lead to rejection of Bid.

3. Acceptance of Tender Conditions

From: (On the letter head of the company by the authorized officer having power of attorney)

Sub: Name of the work & NIT No.:

Sir,

This has reference to above referred tender. I/We are pleased to submit our tender for the above work and I/We hereby unconditionally accept the tender conditions and tender documents in its entirety for the above work. I/we are eligible to submit the tender for the subject tender and I/We are in possession of all the documents required. I/We have viewed and read the terms and conditions of this GCC/SCC carefully. I/We have downloaded the following documents forming part of the tender document:

- a) Notice Inviting e-Tender. (pg- to pg-)
- b) Quoting Sheet for Bidder (pg- to pg-)
- c) Instructions to Bidders & General Conditions of Contract (Vol- I/2013) :(pg- to pg)
- d) Technical Specifications (Vol-II) (pg- to pg-)
- e) Bill of Quantities (Vol-III) (pg- to pg-)
- f) Tender Drawing (pg- to pg-)
- g) Acceptance of Tender Conditions (Annexure II)
- h) Corrigendum, if any (pg- to pg-)

I/we have uploaded the mandatory scanned documents such as cost of tender document, EMD, e-Tender Processing Fee and other documents as per Notice Inviting e-tender AND I/We agree to pay the cost of tender document, EMD, e-Tender Processing Fee (only receipt/proof of online payment) and other documents in the form and manner as described in NIT/ITB .Should this tender be accepted, I/We agree to abide by and fulfill all terms and conditions referred to above and as contained in tender documents elsewhere and in default thereof, to forfeit and pay JSCL, or its successors or its authorized nominees such sums of money as are stipulated in the notice inviting tenders and tender documents. If I/we fail to commence the work within 10 days of the date of issue of Letter of Intent and/or I/we fail to sign the agreement as per Clauses of Contract and/or I/we fail to submit performance guarantee as per Clauses of Contract, I/we agree that JSCL shall, without prejudice to any other right or remedy, be at liberty to cancel the Letter of Intent and to forfeit the said earnest money as specified above.

Dated:

Yours faithfully,
(Signature of the Bidder with Stamp)

SECTION-3
GENERAL CONDITIONS OF CONTRACT (GCC)

GENERAL CONDITIONS OF CONTRACT (GCC)

1. DEFINITIONS

The Contract means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of JSCL and the contractor, together with the documents referred to therein including these conditions, the specifications, Designs, drawings and instructions issued from time to time by the Engineer- in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another. Jabalpur Smart City Ltd , hereinafter called 'JSCL' proposes to get the works executed as mentioned in the Contract on behalf of Owner/ Client as Implementing agency/Executing Agency.

In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them

APPROVAL means approved in writing including subsequent written confirmation of previous verbal approval.

BILL OF QUANTITIES or SCHEDULE OF QUANTITIES means the priced and completed Bill of Quantities or Schedule of Quantities forming part of the tender.

CONTRACTOR shall mean the individual, firm, LLP or company, whether in corporate or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or LLP or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.

CONTRACT VALUE means the sum for which the tender is accepted as per the Letter of Intent.

DRAWINGS mean the drawings referred to in the contract document including modifications if any and such other drawings as may from time to time be furnished and/ or approved by JSCL.

DATE OF COMMENCEMENT OF WORK: The date of start of contract shall be reckoned from 10 days after the date of issue of Letter of Intent.

ENGINEER-IN-CHARGE means the Engineer of JSCL who shall supervise and be in-charge of the work.

LANGUAGE: All documents and correspondence in respect of this contract shall be in English Language.

“LETTER OF INTENT” shall mean JSCL’s letter or notification conveying its acceptance of the tender subject to such conditions as may have been stated There in.

MONTH means English Calendar month „Day“ means a Calendar day of 24 Hr

JSCL shall means Jabalpur Smart City Limited, a company registered under the Indian Company Act, with its registered office at Manas Bhawan, Wright Town, Jabalpur, Madhya Pradesh 482001 or its Administrative officers or its engineer or other employees authorized to deal with any matter with which these persons are concerned on its behalf.

OWNER/ CLIENT means the Government, Organization, Ministry, Department, Society, Cooperative, etc. who has awarded the work/ project to JSCL and/ or appointed JSCL as Implementing / Executing Agency/ Project Manager and/ or for whom JSCL is acting as an agent and on whose behalf JSCL is entering into the contract and getting the work executed.

SCHEDULE(s) referred to in these conditions shall mean the standard schedule of rates of the government mentioned in the Memorandum (Annexure-I) with the amendments thereto issued up to the date of receipt of the tender.

SITE means the lands and other places on, under, in or through Which the works are to be executed or carried out and any other lands or places provided by JSCL/client/owner or used for the purpose of the contract.

TENDER means the Contractor’s priced offer to JSCL for the execution and completion of the work and the remedying of any defects therein in accordance with the provisions of the Contract, as accepted by the Letter of Intent or Award letter. The word TENDER is synonymous with Tender and the Word TENDER DOCUMENTS with “Tendering Documents” or “offer documents”.

WRITING means any manuscript typed written or printed statement under or over signature and/or seal as the case may be.

Works or Work shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.

The headings in the clauses/ conditions of tender documents are for convenience only and shall not be used for interpretation of the clause/ condition.

Words imparting the singular meaning only also include the plurals and vice versa where the context requires. Words importing persons or parties shall include firms and corporations and organizations having legal capacities.

Excepted Risk are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the JSCL or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to JSCL's faulty design of works.

Market Rate shall be the rate as decided by the Engineer-in-Charge on the basis of the prevailing cost of materials and labour at the site where the work is to be executed plus the percentage mentioned elsewhere in the tender document to cover, all overheads and profits.

2. PERFORMANCE GUARANTEE:

"Within 30 (Thirty) days from the date of issue of Letter of Intent or within such extended time as may be granted by JSCL in writing, the contractor shall submit to JSCL an irrevocable performance bank guarantee in the form appended, from any Nationalized Bank or all Commercial schedule bank equivalent to 5% (five per cent only) of the contract value for the due and proper execution of the Contract. The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of works gets extended, the contractor shall get the validity of Performance Guarantee extended to cover such extended time for completion of work.

JSCL reserve the right of forfeiture of the performance guarantee in the event of the contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract.

Performance guarantee shall be returned after successful completion / testing / commissioning and handing over the project to the client up to the entire satisfaction of JSCL / Client.

In case the contractor fails to submit the performance guarantee of the requisite amount within the stipulated period or extended period, Letter of Intent automatically will stand withdrawn and EMD of the contractor shall be forfeited.

3. SECURITY DEPOSIT/ RETENTION MONEY

The Security deposit or the retention money shall be deducted from each running bill of the contractor @ 5% (five per cent only) of the gross value of the Running Account bill. Earnest

money shall be adjusted first in the security deposit and further recovery of security deposit shall commence only when the upto date amount of security deposit exceeds the earnest money deductible under this clause. No Interest shall be paid on amount so deducted.

Security deposit will be released after completion of defect liability period.

In lieu of security deposit /retention money BG can be submitted which shall be released after completion of defect liability period.

The release/refund of security deposit of the contractor shall be subject to the observance/compliance of the conditions as under and whichever is later:

a) Expiry of the defect liability period in conformity with provisions contained in clause (Defect liability clause). The expiry of defect liability period shall be extended from time to time depending upon extension of time granted by JSCL.

The contractor produces a clearance certificate from the labour office. As soon as the work is virtually completed, the contractor shall apply for the labour clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate.

JSCL reserves the right of part or full forfeiture of security deposit in addition to other claims in the event of contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract.

4. MOBILIZATION ADVANCE

Mobilization advance up to maximum of amount as mentioned in the "Memorandum (Annexure-I)" shall be paid to the contractor, if requested by him, on submission of irrevocable Bank Guarantee valid for contract period of an amount 1.2 times of the mobilization advance to take care of advance and interest at prescribed rate from a nationalized bank or all Commercial scheduled bank in the enclosed Performa. The Mobilization advance shall be interest bearing @ as mentioned in the "Memorandum (Annexure-I)". This advance shall be paid in three instalments as follows:

First Instalment of fifty percent of total mobilization advance shall be paid after the agreement is signed and upon submission of performance guarantee for full amount as specified.

2nd instalment of twenty five percent of total mobilization advance will be paid after the setting up of site office and site laboratory, complete mobilization of plant and machinery, scaffolding & shuttering materials etc.

The Balance twenty five percent of total mobilization advance shall be paid on completion of 10% of work in terms of cost and after the contractor has fully mobilized the work at site.

The mobilization advance bear simple interest at the rate as mentioned in the Memorandum (Annexure-I) and shall be calculated from the date of payment to the date of recovery (365 days in a year) both days inclusive, on the outstanding amount of advance. Recovery of such mobilization advanced including interest shall be made by the deduction from the contractor's bills commencing after first ten percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered either by the time eighty percent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the instalment or on expiry of eighty percent of contract period (i.e. time allowed for completion of work in terms of Memorandum-Annexure-I) whichever is earlier.

The bank guarantee submitted by contractor against mobilization advance shall initially be made for the full amount as mentioned in para 4.1 above and valid for the contract period, and be kept renewed from time to time to cover the balance amount and likely period of completion of recovery together with interest. However, the contractor can submit part bank guarantees against the mobilization advance in as many numbers as per proposed number of recovery instalments equivalent to the amount of each instalment.

Notwithstanding what is contained above, no mobilization advance whatsoever shall be payable, if payment of mobilization advance is not mentioned in the Memorandum (Annexure-I).

5. SECURED ADVANCE AGAINST NON-PERISHABLE MATERIALS

Interest free secured advance up-to a maximum of 75 % (seventy five percent) of the Market Value of the Materials under Non Scheduled items or the 75 % (seventy five percent) cost of materials as derived from the tendered item rate of the contractor, whichever is less, required for incorporation in the permanent works and brought to site and duly certified by JSCL site Engineer shall be paid to the Contractor for all non-perishable items as per UADD/MPPWD/CPWD norms. The advance will be paid only on submission of Indemnity Bond in the prescribed pro-forma. The advance shall be recovered in full from next Running Account bill and fresh advance shall be paid for the balance quantities of materials. The

contractor shall construct suitable go-down at the site of work for safe storage of the materials against any possible damages due to sun, rain, dampness, fire, theft etc. at his own cost. He shall also employ necessary watch & ward establishment for the purpose at his costs and risks.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance shall however, be paid on high risk materials such as ordinary glass, sand, petrol, diesel etc.

6. DEVIATIONS / VARIATIONS EXTENT AND PRICING

The Engineer-in-Charge shall have power (i) to make any alterations in, omissions from, additions to or substitutions for, the original specifications, drawings, designs and instructions that may appear to him to be necessary during the progress of the work, (ii) to omit part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions, or substitutions shall form part of the contract as if originally provided therein and any altered, additions or substituted works which the contractor may be directed to do in the manner specified above as part of the work, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereunder provided:

The time for the completion of the work shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered be extended, if requested by the contractor, as follows:

in the proportion which the additional cost of the altered, additional or substituted work bears to the original tendered value plus 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

If the extra items includes any work for which no rate is specified in the contract, then such work shall be carried out at the rates entered in the schedule of rates (as mentioned in Memorandum (Annexure-I)) for Civil Works minus/plus the percentage which the tendered amount of scheduled items bears with the estimated amount of schedule items based on the Schedule of Rates (as mentioned in Memorandum (Annexure-I) for Civil/ Sanitary Works). The scheduled item means the items *appearing in the Schedule of Rates* (as mentioned in Memorandum (Annexure-I)for Civil/ Sanitary Works) which shall be applicable in this clause. This clause will apply mutates mutandis to electrical work except that Electrical Schedule of

Rates as mentioned in Memorandum (Annexure-I) will be considered in place of Civil works Schedule of rates as mentioned in Memorandum (Annexure-I)

However, In the case of extra item(s), (items that are completely new, and are in addition to the items contained in the contract, and not included in the schedule of rates (as mentioned in Memorandum (Annexure-I)), the contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis, for the work and the engineer-in-charge shall within one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para:

If the market rate for the substituted item so determined is more than the market rate of agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

If the market rate for the substituted item so determined is less than the market rate of the agreement (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted)

In the case of contract item(s), substituted item(s), contract cum substituted items, which exceed the limits laid down in Memorandum (Annexure-I), the contractor shall within fifteen days of receipt of order of occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the scheduled of quantities, the Engineer-in-Charge shall within one month of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the Contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Memorandum (Annexure-I), and the Engineer-in-charge shall after giving notice of the contractor within one month of occurrence of the excess

and after taking into consideration any reply received from him within fifteen days of the receipt of the notice revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

The contractor shall send to the Engineer-in-Charge once every three months, an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Engineer-in-charge may authorize consideration of such claims on merits.

For the purpose of operation of Memorandum (Annexure-I), the following works shall be treated as works relating to foundation unless and otherwise defined in the Contract:

For Buildings: All works up to 1.2 meters above ground level or up to floor 1 level whichever is lower.

For abutments, piers and well staining: All works upto 1.2m above the bed level.

For walls, compound walls, , and other elevated structures: All works upto 1.2 metres above the ground level.all items of excavation and filling including treatment of sub base.

Any operation incidental to or necessarily has to be in contemplation of Bidder while filling, tender or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not specifically indicated in the description of the item and the relevant specifications shall be deemed to be included in the rates quoted by the Bidder or the rate given in the said schedule or rates as the case may be Nothing extra shall be admissible for such operations.

Market Rates to be determined as per various sub-clauses given in tender document shall be on the basis of Prevailing rates of Material (unless mentioned otherwise), Relevant Labour authority rate for Labour, market rates of T&P etc. plus 15% towards Contractors' Profits and Overheads.

The following factors may be considered in the justification of rates on which Contractor's overhead & profit shall not be applicable:

Buildings and Other Construction Worker Cess as applicable in the state of work place EPF (Employer Contribution) component, as per EPF act on the portion of labour's wages, on works contract / WCT, as per composite scheme in the State of work place, if applicable GST

7. ESCALATION

No claim on account of any escalation on whatsoever ground shall be entertained at any stage of works. All rates as per Bill of Quantities (BOQ) quoted by contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. No escalation shall be applicable on this contract.

8. COMPENSATION FOR DELAY

If the contractor fails to maintain the required progress in terms of clause or relevant clause of GCC & Special Conditions of Contract, to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the JSCL on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Engineer in charge (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day / week (as applicable) that the progress remains below that specified in Clause or the relevant clause in GCC & Special Conditions of Contract or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified

- i) Compensation for delay of work @ 1.5% per month delay to be computed on daily basis.

Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the Tendered Value of work or of the Tendered Value of the item or group of items of work for which a separate period of completion is originally given. The amount of compensation may be adjusted or set- off against any sum payable to the Contractor under this or any other contract with JSCL.

In case, the contractor does not achieve a particular milestone mentioned elsewhere in the tender document, or the re-scheduled milestone(s) the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. With-holding of this amount or failure to achieve a milestone, shall be automatic without any notice to the Contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

9. ACTION IN CASE WORK NOT DONE AS PER SPECIFICATIONS

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-charge, his

authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the JSCL or any organization engaged by the JSCL for Quality Assurance and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself. If it shall appear to the Engineer-in-charge or his authorized subordinates in-charge of the work or to the officer of Quality Assurance or his subordinate officers or the officers of the organization engaged by the JSCL for Quality Assurance or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as per conditions of contract (for non-completion of the work in time) for this default. In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the Engineer in charge may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

10. ACTION IN CASE OF BAD WORK

If it shall appear to the Engineer-in-Charge or his authorized representative in charge of the work or to the Chief Technical Examiner or to any other inspecting agency of Government/ State Government/ Owner where the work is being executed, that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are

unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, the contractor shall on demand in writing which shall be made within twelve months of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, Certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own proper charge and cost, and in the event of his failing to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid while the contractor failure to do so shall continue, the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace with others, the material or articles complained of as the case may be at the risk and expense in all respects of the contractor.

11. CANCELLATION/DETERMINATION OF CONTRACT IN FULL OR PART

Subject to other provisions contained in this clause the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and / or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workmanlike manner shall omit to comply with the requirement of such notice for a period of seven days thereafter; or

If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge; or

If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge; or

If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not

remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge; or

If the contractor shall offer or give or agree to give to any person in JSCL service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any action relation to the obtaining or execution of this or any other contract for JSCL; or

If the contractor shall enter into a contract with JSCL in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge; or

If the contractor shall obtain a contract with JSCL as a result of wrong tendering or other non-bona-fide methods of competitive tendering or commits breach of Integrity Pact; or If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors; or If the contractor being a company, shall pass a resolution or the Court shall make an order for the winding up of the company, or a receiver or manager on behalf of the debenture holders or otherwise shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or manager; or If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days, or. If the contractor assigns, transfers, sublets (engagement of labour on a piece-work basis or of the labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer sublet or otherwise parts with the entire works or any portion thereof without and prior written approval of the Engineer-in-Charge.

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge may without prejudice to any other right or remedy which shall have accrued or shall accrue hereafter to JSCL, by a notice in writing to cancel the contract as whole or only such items of work in default from the Contract, the Engineer-in-charge shall have powers:

Take possession of site and any materials, constructional plant, implements, stores, etc. thereon; and/ or Carry out the incomplete work by any means at the risk and cost of the contractor; and/ or

The Engineer-in-charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by JSCL because of action under this clause shall not exceed 10% of the tendered value of the work.

To determine or rescind the contract as aforesaid (of which termination or rescission notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination or rescission the full security deposit recoverable under the contract and performance guarantee shall be liable to be forfeited and un-used materials, construction plants, implements, temporary buildings, etc. shall be taken over and shall be absolutely at the disposal of the JSCL. If any portion of the Security Deposit has not been paid or received it would be called for and forfeited; and/ or

To employ labour paid by the JSCL and to supply materials to carry out the work or any part of the work debiting the contractor with the cost of the labour and the price of the materials of the amount of which cost and price certified by the Engineer- in-Charge shall be final and conclusive) against the contractor and crediting him with the value of the work done in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Engineer-in- Charge as to the value of the work done shall be final and conclusive against the contractor provided always that action under the sub- clause shall only be taken after giving notice in writing to the contractor. If the expenses incurred by the JSCL are less than the amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor; and/ or

After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof as shall be un-executed or delayed with reference to the General Conditions of Contract / or relevant clause of Condition Special of Contract, out of his hands and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer-in- Charge shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by JSCL under his contract or on any other account whatsoever or from his security deposit or the proceeds of sales of unused materials, construction plants, implements temporary buildings etc. thereof or a sufficient part

thereof as the case may be. If the expenses incurred by the JSCL are less than the amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor; and/or

By a notice in writing to withdraw from the contractor any items or items of work as the Engineer-in-charge may determine in his absolute discretion and get the same executed at the risk and cost of the contractor.

Any excess expenditure incurred or to be incurred by JSCL in completing the works or part of the works or the excess loss or damages suffered or

may be suffered by JSCL as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to JSCL in law be recovered from any moneys due to the contractor on any account, and if such moneys are not sufficient the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor shall fail to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors unused materials, constructional plant, implements, temporary buildings, etc. and apply the proceeds of sale thereof towards the satisfaction of any sums due from the contractor under the contract and if thereafter there be any balance outstanding from the contractor, it shall be recovered in accordance with the provisions of the contract and law.

Any sums in excess of the amounts due to JSCL and unsold materials, constructional plant etc. shall be returned to the contractor, provided always that if cost or anticipated cost of completion by JSCL of the works or part of the works is less than the amount which the contractor would have been paid had he completed the works or part of the works, such benefit shall not accrue to the contractor.

In the event of anyone or more of the above courses being adopted by the Engineer- in-Charge the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified. Provided further that if any of the recoveries to be made, while taking action as above, are in excess of the security deposit forfeited, these shall be limited to the amount by which the excess cost incurred by the JSCL exceeds the security deposit so forfeited.

12. CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN Under Clause 6.0

In any case in which any of the powers conferred upon the Engineer-in-Charge by relevant clause thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under any clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final

determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final and binding on the contractor and/or direct the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

13. CARRYING OUT PART WORK AT RISK & COST OF CONTRACTOR

If contractor:

At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge;

or

Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge;

or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

The Engineer-in-Charge without invoking action under conditions of contract may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to JSCL, by a notice in writing to take the part work/part incomplete work of any item(s) out of his hands and shall have powers to:

Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by JSCL because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by JSCL in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by JSCL as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to JSCL in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials,

constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract. In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

14. SUSPENSION OF WORKS

The contractor shall, on receipt of the order in writing of the Engineer-in-charge, suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-charge may consider necessary for any of the following reasons:

On account of any default on part of the contractor, or For proper execution of the works or part thereof for reason other than the default of the contractor, or For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-charge.

(b) If the suspension is ordered for reasons (ii) and (iii) in sub-para (a) above.

i) The contractor shall be entitled to an extension of the time equal to the period of every such suspension plus 25% for completion period. No adjustment in contract price will be allowed for reasons of such suspension.

ii) In the event of the Contractor treating the suspension as an abandonment of the Contract by JSCL, he shall have no claim to payment of any compensation on account of any profit or advantage which he may have derived from the execution of the work in full.

15. TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR

Without prejudice to any of the right or remedies under this contract if the contractor dies, the Engineer in-charge shall have the option of terminating the contract without compensation to the contractor.

16. TIME ESSENCE OF CONTRACT & EXTENSION FOR DELAY

The time allowed for execution of the Works as specified in the Memorandum (Annexure-I) or the extended time in accordance with these conditions shall be the essence of the contract. The

execution of the works shall commence from such time period as mentioned in MEMORANDUM (ANNEXURE – I) or the date on which the Engineer-in-Charge issues written orders to commence the work. If the Contractor commits default in commencing the execution of the work as aforesaid, the JSCL shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.

Within 10 (Ten) days of Letter of Intent, the Contractor shall submit a time and Progress Chart (CPM/ PERT/ Quantified Bar Chart) and get it approved by the Engineer-in-Charge. The Chart shall be prepared in direct relation to the time stated in the contract documents for completion of items of the works. It shall indicate the forecast (mile-stones) of the dates of commencement and completion of various items, trades, sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time stipulated in the Contract documents and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work exceeds one month (save for special jobs for which a separate program has been agreed upon) complete 1/8th of the whole of work before 1/4th of the whole time allowed in the contract has elapsed, 3/8th of the work before one half of such time has elapsed and 3/4th of the work before 3/4th of such time has elapsed. The physical progress report including photographs shall be submitted by the contractor on the prescribed format & the intervals (not exceeding one month) as decided by the Engineer in Charge. The compensation for delay as per tender document shall be envidable at intermediate stages also, in case the required progress is not achieved to meet the above time deadlines of the completion period and/ or milestones of time and progress chart, provided always that the total amount of Compensation for delay to be paid under this condition shall not exceed 10% of the tendered value of work”.

If the work(s) be delayed by:

1. force-majeure or
2. Abnormally bad weather, or
3. Serious loss or damage by fire, or
4. Civil commotion, local commotion of workmen, strike or lockout, affecting any or the trades employed on the work, or
5. Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in Executing work not forming part of the Contract, or
6. Non-availability of stores, which are responsibility of the JSCL or,
7. Non-availability or break down of tools and plant to be supplied or supplied by JSCL or,

8. Any other cause which, in the absolute discretion of the JSCL, is beyond the Contractor's control, then upon the happening of any such event causing delay, the

Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge within 07 days but shall nevertheless use constantly his best endeavor to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

Request for extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay in the prescribed form. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired. In any such case JSCL may give a fair and reasonable extension of time for completion of work. Such extension shall be communicated to the Contractor by the Engineer-in-Charge in writing within a reasonable time from the receipt of such request. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in-Charge and the extension of time so given by the Engineer-in-Charge shall be binding on the contractor.

17. TIME SCHEDULE & PROGRESS

Time allowed for carrying out all the works as entered in the tender shall be as mentioned in the "Memorandum (Annexure-I)" which shall be reckoned from the 10th day from the date on which the Letter of Intent is issued to the Contractor. Time shall be the essence of the contract and contractor shall ensure the completion of the entire work within the stipulated time of completion.

The contractor shall also furnish within 10 days of date of issue of Letter of Intent a CPM network/ PERT chart/ Bar Chart for completion of work within stipulated time. This will be duly got approved from JSCL. This approved Network/ PERT Chart shall form a part of the agreement. Achievement of milestones as well as total completion has to be within the time period allowed.

Contractor shall mobilize and employ sufficient resources for completion of all the works as indicated in the agreed BAR CHART/PERT Network. No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule even though the time schedule is approved by the Engineer-in-Charge.

During the currency of the work the contractor is expected to adhere to the time schedule on mile stone and total completion and this adherence will be a part of Contractor's performance under the contract. During the time schedule on mile stone and total completion and this

adherence will be a part of Contractor's performance under the contract. During the execution of the work contractor is expected to participate in the review and updating of the Network/BAR CHART undertaken by the JSCL. These reviews may be undertaken at the discretion of Engineer-in-charge either as a periodical appraisal measure or when the quantum of work order on the contractor is substantially changed through deviation orders or amendments. The review shall be held at site or any of the offices of JSCL/owner /consultant at the sole discretion of JSCL. The contractor will adhere to the revised schedule thereafter. The approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension of time to the contractor.

Contractor shall submit (as directed by Engineer-in-Charge) progress reports on a computer based program (program and software to be approved by Engineer-in- Charge) highlighting status of various activities and physical completion of work. The contractor shall send completion report with as built drawings to the office of Engineer- in-Charge, of JSCL in writing within a period of 30 days of completion of work.

The photographs of the project taken on last day of every month indicating progress of work (in soft copies) shall be attached along with the physical progress reports to be submitted to Engineer-in-charge.

18. TAXES AND DUTIES

Except as otherwise specifically provided in the contract, the contractor shall be liable and responsible for the payment, of all taxes, such as GST (State and Central) & any other applicable tax(es), duty(ies), levy, cess if any, in the state concerned which may be specified by local/state/central government from time to time on all material articles which may be used for this work. The rates quoted by him in the tender in bill of quantities shall be exclusive of GST for all items.

In the event of nonpayment/default in payment of any of the above taxes, JSCL reserves the right to with-hold the dues/payments of contractor and make payment to local/state/Central Government authorities or to labourers as may be applicable.

The imposition of any new and/or increase in the aforesaid taxes, duties levies (including fresh imposition of any other Tax) is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the contractor thereupon necessarily and properly pays such taxes/levies/cess, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of Engineering-in charge attributable to delay in execution of work within the control of contractor. The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the

Engineering- in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

The rate quoted by the contractor shall be deemed to be exclusive of GST for all items as given in tender document Tax deductions at source shall be made as per laws prevalent in the State as applicable for the work.

The stamp duty and registration charges, if any, on the contract agreement levied by the Government or any other statutory body, shall be paid by the contractor as applicable in the state of work.

It will be incumbent upon the Contractor to obtain a registration certificate as a dealer under the GST Act and necessary evidence to this effect shall be furnished by the Contractor to JSCL.

The Bidder shall quote his rates exclusive of GST in conjunction with other terms and conditions. In case, the GST on Works contract on execution of works is waived off by the State Govt. at later stage for this project, the equivalent amount from the date of waiver of such tax (as per prevailing rate as on the date of waiver of all type of Taxes and GST Works Contract) shall be deducted from the amount payable to the contractor from subsequent RA bills.

In the event of decrease / relaxation and / or waiver of any of the existing / prevailing tax(es), duties, levies, cess by Central / state Govt. Or any other statutory body (ies), after the last stipulated date for the receipt of tender including extension (if any), and the contractor thereupon has been paid or has raised claims of such tax(es), duties, levies, cess; such sums shall be recovered / deducted (from claims raised but which has not been paid) effective from the date as reckoned in the relevant statutory order / law / ordinance etc. The contractor, shall, within a period of 30 days of any such waiver/relaxation/decrease in tax(es), duties, levies, cess, give a written notice thereof to Engineer-in-charge stating the statutory change with Documentary proof thereto. Provided always that Engineer-in-charge shall have full powers to effect recovery/deduction on account of any such statutory change even if contractor has not intimated in the event when any such statutory action comes to his notice.

19. INCOME TAX DEDUCTION (TDS)

Income tax deductions shall be made from all payments made to the contractor including advances against work done, as per the rules and regulations in force, in accordance with the Income Tax act prevailing from time to time.

20. GOODS AND SERVICES TAX (GST)

The Bidder shall quote rates inclusive of all type of tax and exclusive GST items. The contractor must have GST registration number and will provide copy of Registration to JSCL before

release of any payment by the Corporation. The contractor will submit regular Invoice / Bill fulfilling all conditions of Goods and Service Tax (GST) Rules.

21. ROYALTY ON MATERIALS:

The contractor shall deposit royalty and obtain necessary permit for supply of bajri, stone, kankar, sand and other materials etc. from the local authorities and quoted rates shall be inclusive of royalty.

The contractor shall be deemed to have inspected the site, its surrounding and acquainted itself with the nature of the ground, accessibility of the site and full extent and nature of all operations necessary for the full and proper execution of the contract, space for storage of materials, constructional plant, temporary works, restrictions on the plying of heavy vehicles in area, supply and use of labour materials, plant, equipment and laws, rules and regulations, if any, imposed by the local authorities.

The rates and prices to be tendered in the bill of quantities are for completed and finished items of works and complete in all respects. It will be deemed to include all constructional plant, labour, supervision materials, transport, all temporary works, erection, maintenance, contractor's profit and establishment/overheads, together with preparation of designs & drawings pertaining to casting yard, shop drawing, fabrication drawing (if required), staging form work, stacking yard, etc. all general risk, all taxes, royalty, duties, cess, octroi and other levies, insurance liabilities and obligations set out or implied in the tender documents and contract.

If any temporary/ permanent structure is encountered or safety of such structure in the vicinity is endangered due to execution of the project, the contractor has to protect the structures by any means as per direction of Engineer-in-Charge. If any damage is caused to any temporary or permanent structure(s) in the vicinity due to execution of the project, the contractor has to make good the same by any means as per direction of Engineer-in-Charge. The contractor should inspect the site of work from this point of view. The cost to be incurred in this regard shall be deemed to be included in his quoted rates of BOQ items and the contractor shall not be entitled for any extra payment in this regard.

22. INSURANCE OF WORKS ETC.

Contractor is required to take contractor's all risk policy or erection all risk policy (as the case may be) from an approved insurance company in the joint name with JSCL and bear all costs towards the same for the full period of execution of works including the defect liability period for the full amount of contract against all loss of damage from whatever cause arising other than excepted risks for which he is responsible under the terms of the contract and in such manner

that the JSCL and the contractor are covered during the period of construction of works and/or also covered during the period of defect liability for loss or damage. The work and the temporary works to the full value of such works.

The materials, constructional plant, centering, shuttering and scaffolding materials and other things brought to the site for their full value. Whenever required by JSCL, the contractor shall produce the policy or the policies of insurance and the receipts for payment of the current premium.

INSURANCE UNDER WORKMEN COMPENSATION ACT

Contractor is required to take insurance cover under the Workman Compensation Act, 1923 amended from time to time from an approved insurance company and pay premium charges thereof. Wherever required by JSCL the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

THIRD PARTY INSURANCE

Contractor is required to take third party insurance cover for an amount of 5%(five percent) of contract value from an approved insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of JSCL / owner / client, arising out of the execution of the works or temporary works. Wherever required by JSCL the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

In case of failure of the contractor to obtain contractors all risk policy, insurance under workman compensation act and third party insurance as described above within one month from the date of commencement of work, running account payments of the contractor shall be withheld till such time the aforesaid insurance covers are obtained by the contractor.

If the Contractor could not effect a comprehensive insurance cover against risks which he may be required to effect under the terms of the contract, then he shall give his attention to get the best insurance cover available and even in case of effecting a wider insurance cover than the one which the subsidiary of the General Insurance Company could offer, such an insurance is ought to be done after the JSCL's approval, by or through the subsidiary of the General Insurance Company.

The contractor shall at all times indemnify JSCL and Owner against all claims, damages or compensation under the provision of Payment of wages act-1936, Minimum Wages Act-1948, Employer's liability Act-1938, the workmen's compensation Act-1947, Industrial Disputes Act-1947 and Maternity Benefit Act-1961 or any modifications thereof or any other law in force or as consequence of any accident or injury to any workman or other persons in or about the works,

whether in the employment of the contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the contractor be paid to compromise or compound any such claim. Without limiting his obligations and liabilities as above provided, the contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act 1923 or any modification thereof or any other law relating thereto.

23. PAYMENTS

All running payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and/or accepted by JSCL and shall not preclude the recovery for bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the Contract, or any part thereof, in this respect, or the accruing of any claim, nor shall it conclude, determine or affect in any way the powers of the JSCL under these conditions or any of them as to the final settlement and adjustments of the accounts or otherwise, or in any other way vary/ affect the contract. The final bill shall be submitted by the contractor within three months of the completion of work, otherwise JSCL's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on contractor. Each Running Bills should be accompanied by two sets of at-least 20 (twenty) photographs as per direction of Engineer-in-charge taken from various points depicting status of work as on Report/ Bill date and Monthly Progress Report for the concerned month in the pro-forma to be given/ approved by Engineer-in-Charge. Intermittent progress Photographs as and when required shall also be provided by the Contractor at his own cost as per direction of Engineer-in-Charge. No payment of running account bill shall be released unless it is accompanied by photographs and Monthly Progress Report as above.

It is clearly agreed and understood by the Contractor that notwithstanding anything to the contrary that may be stated in the agreement between JSCL and the contractor; the contractor shall become entitled to payment only after JSCL has received the corresponding payment(s) from the client/ Owner for the work done by the contractor. Any delay in the release of payment by the client/ Owner to JSCL leading to a delay in the release the corresponding payment by JSCL to the contractor shall not entitle the Contractor to any compensation/ interest from JSCL.

All payments shall be released by way of e-transfer through RTGS/NEFT in India directly at their Bank account by JSCL.

24. MEASUREMENTS OF WORKS

Engineer-in-charge shall, except as otherwise provided, ascertain and determine by measurement, the value of work done in accordance with the contract.

Except where any general or detailed description of the work expressly shows to the contrary, measurement shall be taken in accordance with the Procedure set forth in the UADD Specification. In the case of items which are not covered by specifications, mode of measurement as specified in the Technical Specifications of the contract and if for any item no such technical specification is available, then a relevant standard method of measurement issued by the Bureau of Indian Standard shall be followed.

Provided further that, In case of Cancellation/Determination of Contract in Full or in Part in accordance with clause of tender document (and its sub-clauses), following methodology shall be adopted in respect of measurements in addition to what has been mentioned in foregoing:-

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.

If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge and JSCL shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor. The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

25. COMPUTERIZED MEASUREMENT BOOKS

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract. All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book as per the format of JSCL so that a complete record is obtained of all the items of works performed under the contract. All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative.

After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in- Charge for the dated signatures by the Engineer-in- Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to JSCL a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in- Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly numbered and bound, after getting the earlier MB cancelled by the JSCL. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the JSCL.

The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages numbered along with two spare copies of the "bill.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements /levels by the Engineer-in-Charge or his representative.

The contractor shall give not less than seven days" notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge"s consent being obtained in writing the same shall be uncovered at the Contractor"s expense, or in default thereof no

payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the JSCL to check the measurements recorded by contractor and all provisions stipulated herein above or anywhere in the tender document shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

26. WITHHOLDING AND LIEN IN RESPECT OF SUMS DUE FROM CONTRACTOR

Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, JSCL shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the contractor and for the purpose aforesaid, JSCL shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, JSCL shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or JSCL will be kept withheld or retained as such by the Engineer-in-Charge or JSCL till the claim arising out of or under the contract is determined by the competent court and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the JSCL shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company, as the case may whether in his individual capacity or otherwise. JSCL shall have the right to cause an audit and technical examination of the works and the final bills

of the contractor including all supporting vouchers, abstract, etc, to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for JSCL to recover the same from him in the manner prescribed in tender document of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by JSCL to the contractor, without any interest thereon whatsoever.

LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or by JSCL against any claim of the Engineer-in-Charge or JSCL in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the JSCL. It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the JSCL will be kept withheld or retained as such by the Engineer-in-Charge or the JSCL or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the competent court, as the case may be, and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

27. WORK TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS AND ORDERS ETC.

All items of work in the bill of quantities/ schedule of quantities shall be carried out as per the UADD (as the case may be) specifications, drawings and instructions of the Engineer-in-Charge of JSCL and the rates shall include for supply of required materials including proper storage, consumables, skilled & unskilled labour, supervision and tools, tackles, plant & machinery complete as called for in the detailed specifications and conditions of the contract. Latest updated UADD specification shall be followed for execution of work.

The contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications.

The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work assigned by the Engineer-in-Charge.

The contractor shall comply with the provisions of the contract and execute the works with care and diligence and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

28. MATERIALS TO BE PROVIDED BY THE CONTRACTOR

The contractor shall, at his own expense, provide all materials, required including Cement & Steel for the works. The contractor shall at his own expense and without delay; supply to the Engineer-in-Charge samples of materials to be used on the work and shall get the same approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract.

The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply.

The contractor shall at his risk and cost, submit the samples of materials to be tested or analyzed and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance and cost in obtaining the right and visit to such access. The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full power to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may require such removal and substitution shall be borne by the contractor

29. MATERIALS AND SAMPLES

The materials/products used on the works shall be one of the approved make/ brands out of list of manufacturers / brands /makes given in the tender documents. The contractor shall submit samples/ specimens out of approved makes of materials/ products to the Engineer-in-Charge for prior approval. In exceptional circumstances Engineer-in-Charge may allow alternate

equivalent makes/brands of products/ materials at his sole discretion. The final choice of brand / make shall remain with the Engineer- in-Charge, whose decision in this matter shall be final and binding and nothing extra on this account shall be payable to the Contractor. In case single brand/ make are mentioned, other equivalent makes/ brands may be considered by the Engineer-in- Charge. In case of variance in UADD Specifications from approved products/makes specification, the specification of approved product/make shall prevail for which nothing shall be paid extra to the Contractor. In case no make or brand of any materials, articles, fittings and accessories etc. is specified, the same shall comply with the relevant Indian Standard Specifications and shall bear the ISI/BIS mark. The Engineer of JSCL and the owner shall have the discretion to check quality of materials and equipment's to be incorporated in the work, at source of supply or site of work and even after incorporation in the work. They shall also have the discretion to check the workmanship of various items of work to be executed in this work. The contractor shall provide the necessary facilities and assistance for this purpose.

The above provisions shall not absolve the contractor from the quality of final product and in getting the material and workmanship quality checked and approved from the Engineer-in-Charge of JSCL.

The contractor shall well in advance, produce samples of all materials, articles, fittings, accessories etc. that he proposes to use and get them approved in writing by JSCL. The materials articles etc. as approved shall be LABELLED as such and shall be signed by JSCL and the Contractor's representative.

The approved samples shall be kept in the custody of the Engineer-in- Charge of JSCL till completion of the work. Thereafter the samples except those destroyed during testing shall be returned to the contractor No payment will be made to the contractor for the samples or samples destroyed in testing.

The brands of all materials, articles fittings etc. approved together with the names of the manufacturers and firms from which supplies have been arranged shall be recorded in the site order book.

30. MATERIALS PROCURED WITH THE ASSISTANCE OF JSCL

If any material for the execution of this contract is procured with the assistance of JSCL either by issue from its stores or purchase made under orders or permits or licenses obtained by JSCL, the contractor shall hold and use the said materials economically and solely for the purpose of this contract and shall not dispose them without the permission of Engineer-in-charge. The contractor, if required by the JSCL, shall return all such surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination on whatsoever

reason, on being paid or credited such price as the Engineer-in-charge shall determine having due regard to the conditions of materials. The price allowed to the contractor, however, shall not exceed the amount charged to him excluding the element of storage charges which shall be 10% of the cost charged to contractor. The decision of the Engineer-in-charge shall be final and conclusive.

Contractor(s) has / have to deploy security personnel for safeguarding of materials procured at site.

31. CONTRACTOR TO SUPPLY TOOLS & PLANTS

The contractor shall provide at his own cost all materials, machinery, tools & plants as require for completion of work. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement or examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

32. MOBILIZATION OF MEN, MATERIALS AND MACHINERY:

All expenses towards mobilization at site and de-mobilization including bringing in equipment, work force, materials, dismantling the equipment's, clearing the site etc. shall be deemed to be included in prices quoted and no separate payment on account of such expenses shall be entertained.

It shall be entirely the Contractor's responsibility to provide, operate and maintain all necessary construction equipment's, scaffoldings and safety, gadget, lifting tackles, tools and appliances to perform the work in a workman like and efficient manner and complete all jobs as per the specifications and within the schedule time of completion of work. Further, contractor shall also be responsible for obtaining temporary electric and water connection for all purposes. The contractor shall also make standby arrangement for water & electricity to ensure un-interrupted supply.

It shall be the responsibility of the contractor to obtain the approval for any revision and/or modification desired by him from JSCL before implementation.

The procurement and supply in sequence and at the appropriate time of all materials and consumable shall be entirely the contractor's responsibilities and his rates for execution of work shall be inclusive of supply of all these items.

It is mandatory for the contractor to provide safety equipment's and gadgets to his all workers, supervisory and Technical staff engaged in the execution of the work while working. The minimum requirement (but not limited to) shall be gum boots, safety helmets, Rubber hand gloves, face masks, safety nets, safety belts, goggles etc. as per work requirements. Sufficient nos. of these equipment's and gadgets shall also be provided to JSCL by the contractor at his own cost for use of JSCL Officials and/ or workforce while working/supervision of work at site. No staff/ worker shall be allowed to enter the site without these equipment's/ gadgets. The cost of the above equipment's/ gadgets are deemed to be included in the rates quoted by the contractor for the items & works as per Bill of Quantities and contractor shall not be entitled for any extra payment in these regard. The above norm is to be strictly complied with at site. In case the contractor is found to be deficient in providing Safety Equipment's/ Gadgets in the opinion of Engineer-in-charge, the Engineer-in- charge at his option can procure the same at the risk & cost of contractor and provide the same for the use of worksite and shall make the recoveries from the bills of the contractor for the same. The contractor shall abide by all rules & regulations pertaining to Health, Safety and Environment.

It shall be the duty and responsibility of the contractor to bring to the notice of the JSCL in writing as to any variation, discrepancy or any other changes required and to obtain revised drawings and designs and / or approval of the JSCL in writing for the same.

All materials, construction plants and equipment's etc. once brought by the contractor within the project area, will not be allowed to be removed from the premises without the written permission of the Engineer-in-charge. Similarly all enabling works built by the contractor for the main construction undertaken by him, shall not be dismantled and removed without the written authority of the JSCL.

Contractor shall have to prepare the Bar Bending Schedule, shop and fabrication drawings free of cost, if required for any of the items of work.

Five copies of these drawings each including for revision will be submitted to JSCL for approval. Before executing the item, shop drawings and bar bending schedule should be approved by JSCL.

JSCL shall supply Work Force in the various categories to assist the contractor in execution of the works on recoverable basis as per provision mentioned elsewhere in the contract.

All contractors' plant, machinery and equipment shall be kept in perfect condition during currency of the contract.

33. QUALITY ASSURANCE PROGRAMME

To ensure that the services under the scope of this contract are in accordance with the specifications, the Contractor shall adopt Quality Assurance Programme to control such activities at the necessary points:

The contractor shall prepare and finalize such Quality Assurance Programme within 15 days from date of issue Letter of Intent. JSCL shall also carryout quality audit and quality surveillance of systems and procedures of Contractor's quality control activities. A Quality Assurance Programmer of Contractor shall generally cover the following:

His organization structure for the management and implementation of the proposed Quality Assurance Program.

- Documentation control system.
- The procedure for purpose of materials and source inspection.
- System for site controls including process controls.
- Control of non-conforming items and systems for corrective actions.
- Inspection and test procedure for site activities.
- System for indication and appraisal of inspection status.
- System for maintenance of records.
- System for handling, storage and delivery.

A quality plan detailing out quality practices and procedures, relevant standards and acceptance levels for all types of work under the scope of this contract.

All the quality reports shall be submitted by the Contractors in the formats appended hereto. Checklist enclosed here in this document shall be followed while carrying out Construction activities (items). If any item is not covered by the Checklist/ Formats appended hereto, the Format for the same may be developed and submitted to Engineer-in-Charge for approval and the same shall be adopted. These filled in formats shall be prepared in two copies and duly signed by representatives of contractor and JSCL. All the costs associate with Printing of Formats and testing of materials required as per technical specifications or by Engineer-in-charge shall be included in the Contractor's quoted rates in the Schedule/ Bill of quantities.

34. CONTRACT COORDINATION PROCEDURES, COORDINATION MEETINGS AND PROGRESS REPORTING

The Contractor shall prepare and finalize in consultation with JSCL, a detailed contract coordination procedure within 15 days from the date of issue of Letter of Intent for the purpose of execution of the Contract. The Contractor shall have to attend all the meetings at any place in India at his own cost with JSCL, Owners/ Clients or Consultants of JSCL/ Owner/ Client during the currency of the Contract, as and when required and fully cooperate with such personal and agencies involved during these discussions. The Contractor shall not deal in any way directly with the Clients/ Owners or Consultants of JSCL/Owner/ Clients and any dealing/correspondence if required at any time with Clients/ Owners/ Consultants shall be through JSCL only. During the execution of the work, Contractor shall submit at his own cost a detailed Monthly progress & programme report to the Engineer-in-charge of JSCL by 5th of every month. The format of monthly progress & programme report shall be as approved by Engineer-in-Charge of JSCL.

35. COMPLETION CERTIFICATE AND COMPLETION PLANS

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof less actual cost incurred on removal of materials / debris / malba etc.

The contractor shall submit completion plan as required vide General Specifications for Electrical works as applicable within thirty days of the completion of the work. In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs.5,00,000 (Rs. Five Lakhs only) as may be fixed by the Engineer-in-charge concerned and in this respect the decision of the Engineer-in-charge shall be final and binding on the contractor.

36. PROHIBITION OF UNAUTHORISED CONSTRUCTION & OCCUPATION

No unauthorized buildings, construction of structures should be put up by the contractor anywhere on the project site, neither any building built by him shall be occupied in unauthorized manner by him or his staff.

It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody in un-authorized manner during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy of compensation upto 5% of tendered value of work may be imposed by the Engineer-in-Charge whose decision shall be final both with regard to the justification and quantum and shall be binding on the contractor.

However, the Engineer-in-Charge, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

37. FORECLOSURE OF CONTRACT BY JSCL/OWNER

If at any time after the commencement of the work the JSCL shall for any reason whatsoever is required to abandon the work or is not require the whole work thereof as specified in the tender to be carried out, the Engineer-in-Charge shall give notice in writing of the fact to the contractor, who shall have no claim to any payment of compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full, but which he did not derive in consequence of the foreclosure of the whole or part of the works.

38. DEFECTS LIABILITY PERIOD

The contractor shall be responsible for the rectification of defects in the works for a period 5 years from the date of taking over of the works by the JSCL or clients whichever is later. Any defects discovered and brought to the notice of the contractor forthwith shall be attended to and rectified by him at his own cost and expense. In case the contractor fails to carry out these

rectifications, the same may without prejudice to any other right or remedy available, be got rectified by JSCL at the cost and expense of the contractor.

The Contractor is expected to carry out the construction work in Workmen like manner so as to meet the requirement and specification for the project. It is expected that the Workmanship and materials will be reasonably fit for the purpose for which they are required.

Defects or defective work is where standard and quality of workmanship and materials as specified in the contract is deficient. Defect is defined as a failure of the completed project to satisfy the express or implied quality or quantity obligations of the construction contract. Defective construction works are as the works which fail short of complying with the express descriptions or requirements of the contract, especially any drawings or specifications with any implied terms and conditions as to its quality, workmanship, durability, aesthetic, performance or design. Defects in construction projects are attributable to various reasons.

Some of the defects are structural defects results in cracks or collapse of faulty defective plumbing, inadequate or faulty drainage system, inadequate or faulty ventilation, cooling or heating systems, inadequate fire systems etc. The defects could be various on accounts of different reasons for variety of the projects.

The Engineering In charge/Project Officer shall issue the practical completion certificate for the project. During the Defect Liability Period which commences on completion of the work, the Engineering In charge shall inform or the contractor is expected to be informed of any defective works by the Employer's representative of the defects and make good at contractor's cost with an intention of giving opportunity to the contractor of making good the defects appeared during that period. It is the contractor's obligation under the contract to rectify the defects that appear during Defect Liability Period and the contractor shall within a reasonable time after receipt of such instructions comply with the same at his own cost. The Engineering In charge/Project Officer shall issue a certificate to that effect and completion of making good defects shall be deemed for all the purpose of this contract to have taken place on the day named in such defect liability certificate.

If defective work or workmanship or design have been knowingly covered-up or concealed so as to constitute fraud, commencement of the Defect Liability Period may be delayed. The decided period may be delayed until **discover** actually occurs on at least the defect could have been discovered with reasonable diligence, whichever is earlier.

Also, in case of defect, the Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at. The Defects Liability Period shall be

extended for as long as Defects remain to be corrected. Every time notice of Defect/Defects is given, the Contractor shall correct the notified Defect/Defects within the duration of time specified by the Engineer's notice. The Engineer may issue notice to the Contractor to carry out removal of defects or deficiencies, if any, noticed in his inspection, or brought to his notice. The Contractor shall remove the defects and deficiencies within the period specified in the notice and submit to the Engineer a compliance report.

It is the Completion Stage when the contractor has completed all of the works and fixed all of the defects that were on the list of issue by Engineer-in-charge. When this happens, the engineer must issue a „Certificate of Completion“. On the issue of „Certificate of Completion“, the „Defect Liability Period „starts. The contractor also must issue a „Certificate statement“ as an acknowledgment to the engineer not later than 14 days after the „Certificate of Completion“ has been issued. During the „Defect Liability Period“, the contractor has to obey all written instructions from the engineer to carryout repairs and fix any defects which appear in the Permanent Works. If the contractor does not ,due to his own faults finish the repair works or fix the defects by the end of „Defect Liability Period“, the „Defect Liability Period“ will continue until all works instructed by engineer is done.

39. RESTRICTION ON SUBLETTING

The contractor shall not sublet or assign the whole or part of the works except where otherwise provided, by the contract. The provision of labour on piece work basis shall not be deemed to be a subletting under this clause. The contractor may entrust specialist items of works like MEP services, Water Proofing, interiors, landscaping etc. to the agencies specialized in the specific trade. The contractor shall give the names and details of such firm whom it is going to employ for approval of JSCL. These details shall include the expertise, financial status, technical manpower, equipment, resources and list of works executed and on hand of the specialist agency. Further, prior written approval is required from JSCL to deploy such agency / sub-contractor.

40. FORCE MAJEURE

Any delay in or failure to perform of either party, shall not constitute default so as to give rise to any claim for damages, to the extent such delay or failure to perform is caused by an act of God, or by fire, explosion, flood or other natural catastrophe, governmental legislation, orders or regulation etc. Failure of the client / owner to hand over the entire site and / or release funds for the project, to JSCL, shall also constitute force majeure. The time for performance of the obligation by the parties shall be deemed to be extended for a period equal to the duration of the force majeure event. Both parties shall make their best efforts to minimize the delay caused by the force majeure event. If the failure / delay of the client /owner in handing over the entire

site and / or in releasing the funds continues even on the expiry of the stipulated date of completion, JSCL, may, at the request of the contractor, foreclose the contract without any liability to either party. In the event of such foreclosure, the contractor shall not be entitled to any compensation whatsoever. If prior to such foreclosure the contractor has brought any materials to the site, the Engineer-in-Charge shall always have the option of taking over of all such materials at their purchase price or at the local current rates, whichever is lower.

41. NO COMPENSATION CLAUSE

The contractor shall have no claim whatsoever for compensation or idle charges against JSCL on any ground or for any reason, whatsoever.

42. DIRECTION FOR WORKS

All works under the contract shall be executed under the direction and subject to approval in all respect of the Engineer-in-Charge of JSCL who shall be entitled to direct at whatever point or points and in whatever manner works are to be commenced and executed.

The Engineer-in-Charge and his representative shall communicate or confirm their instructions to the contractor in respect of the execution of work during their site inspection in a „Works Site Order Book“ maintained at the site office of Engineer-in- Charge. The contractor or his authorized representative shall confirm receipt of such instructions by signing against the relevant orders in the book.

43. WORK IN MONSOON AND RAIN

The execution of the work may entail working in the monsoon also. The contractor must maintain labour force as may be required for the job and plan and execute the construction and erection according to the prescribed schedule. No special/ extra rate will be considered for such work in monsoon. The contractors“ rate shall be considered inclusive of cost of dewatering due to rains required if any and no extra rate shall be payable on this account. The stipulated period for completion of project includes the monsoon period, holidays & festivals.

44. WORK ON SUNDAYS, HOLIDAYS AND DURING NIGHT

For carrying out work on Sunday and Holidays or during night, the contractor will approach the Engineer-in-Charge or his representative at least two days in advance and obtain his permission. The Engineer-in- Charge at his discretion can refuse such permission. The contractor shall have no claim on this account whatsoever. If work demand, the contractor shall make arrangements to carry out the work on Sundays, Holidays and in two, three shifts with the approval of Engineer-in-Charge at no extra cost to JSCL.

45. WATER AND ELECTRICITY

The contractor shall make his own arrangement for Water & Electrical power for construction and other purposes at his own cost and pay requisite electricity and water charges. The contractor shall also make standby arrangement for water & electricity to ensure un-interrupted supply.

46. LAND FOR LABOUR HUTS/ SITE OFFICE & STORAGE ACCOMMODATION

The contractor shall arrange the land for temporary office, storage accommodation and labour huts at his own cost and get the clearance of local authorities for setting up/construction of labour camp and same is deemed to be included in the rates quoted by the contractor for the works. The contractor shall ensure that the area of labour huts is kept clean and sanitary conditions are maintained as laid down by the local authorities controlling the area. The labour huts shall be so placed that it does not hinder the progress of work or access to the worksite. The vacant possession of the land used, for the purpose shall be given back by contractor after completion of the work.

The security deposit of the contractor shall be released only after contractor demolishes all structures including foundations and gives back clear vacant possession of this land. In the event the contractor has to shift his labour campus at any time during execution of the work on the instructions of local authorities or as per the requirement of the work progress or as may be required by JSCL, he shall comply with such instructions at his cost and risk and no claim whatsoever shall be entertained on this account.

47. WATCH, WARD AND LIGHTING OF WORK PLACE

The contractor shall at his own cost take all precautions to ensure safety of life and property by providing necessary barriers, OBSTRUCTIONS, lights, watchmen etc. during the progress of work as directed by Engineer-in-charge.

48. SCHEDULE OF QUANTITIES / BILL OF QUANTITIES

The quantities shown against the various items of work are only approximate quantities which may vary as per the actual requirement at site. No item which is not covered in the bill of quantities shall be executed by the Contractor without the approval of the JSCL. In case any Extra/Substituted item is carried out without specific-approval, the same will not be paid.

49. WATER PROOF TREATMENT

The water proof treatment shall be of type and specifications as given in the schedule of quantities.

The water-proofing of basement, roofs, water retaining areas shall be and remain fully effective for a period of not less than 10(Ten) years to be reckoned from the date of expiring of the Defect Liability period, prescribed in the contract. At any time during the said guarantee period if JSCL finds any defects in the said treatment or any evidence of re-infestation, dampness, leakage in any part of buildings or structure and notifies the contractor of the same, the contractor shall be liable to rectify the defect or give re-treatment and shall commence the work or such rectification or re-treatment within seven days from the date of issue of such letter to him. If the contractor fails to commence such work within the stipulated period, the JSCL may get the same done by another agency at the Contractor's cost and risk and the decision of the Engineer-in- Charge of JSCL for the cost payable by the contractor shall be final and binding upon him.

Re-treatment if required shall be attended to and carried out by the Contractor within seven days of the notice from Engineer-in-Charge of JSCL.

The JSCL reserves the right to get the quality of treatment checked in accordance with recognized test methods and in case it is found that the chemicals with the required concentration and rate of application have not been applied, or the water proofing treatment is not done as per specifications, the contractor will be required to do the re- treatment in accordance with the required concentration & specifications at no extra cost failing which no payment for such work will be made. The extent of work thus rejected shall be determined by JSCL. Water proofing shall be got done through approved / specialized agencies only with prior approval of Engineer-in-Charge.

The contractor shall make such arrangement as may be necessary to safe guard the workers and residents of the building against any poisonous effect of the chemicals used during the execution of the work.

During the execution of work, if any damage shall occur to the treatment already done, either due to rain or any other circumstances, the same shall be rectified and made good to the entire satisfaction of Engineer-In-Charge by the contractor at his cost and risk.

The contractor shall make his own arrangement for all equipment's required for the execution of the job. The contractor whose tender is accepted shall execute Guarantee Bond in the prescribed form as appended for guaranteeing the water proofing treatment.

50. INDIAN STANDARDS

Wherever any reference is made to any IS in any particular specifications, drawings or bill of quantities, it means the Indian Standards editions with up to date amendments issued till last date of receipt of tender documents.

51. CENTERING & SHUTTERING

Marine plywood or steel plates or any material mentioned elsewhere in the tender document or as approved by Engineer-in-Charge shall be used for formwork. The shuttering plates shall be cleaned and oiled before every repetition and shall be used only after obtaining approval of JSCL's Engineers at site. The number of repetitions allowed for plywood and steel shuttering shall be at the discretion of Engineer-in-Charge of JSCL depending upon the condition of shuttering surface after each use and the decision of Engineer-in-Charge in this regard shall be final and binding on the contractor. No claim whatsoever on this account shall be admissible.

52. RECORDS OF CONSUMPTION OF CEMENT & STEEL

For the purpose of keeping a record of cement and steel received at site and consumed in works, the contractor shall maintain a properly bound register in the form approved by the JSCL, showing columns like quantity received and used in work and balance in hand etc. This register shall be signed daily by the contractor's representative and JSCL's representative.

The register of cement & steel shall be kept at site in the safe custody of JSCL's Engineer during progress of the work. This provision will not, however, absolve the contractor from the quality of the final product.

In case cement or steel quantity consumed is lesser as compared to the theoretical requirement of the same as per MORTH/UADD/MPPWD/CPWD (as the case may be) specifications/ norms, the work will be devalued and/ or a penal rate (i.e. double the rate at which cement/ steel purchased last) recovery for lesser consumption of cement/ steel shall be made in the item rates of the work done subject to the condition that the tests results fall within the acceptable criteria as per MORTH/UADD/MPPWD/CPWD (as the case may be) specifications otherwise the work shall have to be dismantled and redone by the contractor at no extra cost. In case of cement, if actual consumption is less than 98% of the theoretical consumption, a recovery shall be effected from the contractors bills at the penal rate for the actual quantity which is lower than 98% of theoretical consumption.

53. TESTS AND INSPECTION

The contractor shall carry out the various mandatory tests as per specifications and the technical documents that will be furnished to him during the performance of the work. All the tests on materials, as recommended by UADD/MPPWD/CPWD, MORTH and relevant Indian Standard Codes or other standard specifications (including all amendments current at the last date of submission of tender documents) shall be got carried out by the contractor at the field testing laboratory or any other recognized institution/ laboratory, at the direction of the JSCL. All testing charges, expenses etc. shall be borne by the contractor. All the tests, either on the field or

outside laboratories concerning the execution of the work and supply of materials shall be got carried out by the contractor or JSCL at the cost of the Contractor.

54. WORKS TO BE OPEN TO INSPECTION

All works executed or under the course of execution in pursuance of this contract shall at all times be open to inspection and supervision of the JSCL. The work during its progress or after its completion may also be inspected, by Chief Technical Examiner of Government of India (CTE) and/or an inspecting authority of State Government of State in which work is executed and/or by third party checks by owner/lients. The compliance of observations/improvements as suggested by the inspecting officers of JSCL/CTE/ State authorities/ Owners shall be obligatory on the part of the Contractor at the cost of contractor.

55. BORROW AREAS

The contractor shall make his own arrangements for borrow pits and borrow disposal areas including their approaches and space for movement of man, machinery, other equipment“s as required for carrying out the works. The contractor shall be responsible for taking all safety measures, getting approval, making payment of royalties, charges etc. and nothing extra shall be paid to the contractor on this account and unit rates quoted by the contractor for various items of bill of quantities shall deemed to include the same.

56. CARE OF WORKS

From the commencement to the completion of works and handing over, the contractor shall take full responsibility for care thereof all the works and in case of any damage/loss to the works or to any part thereof or to any temporary works due to lack of precautions or due to negligence on part of Contractor, the same shall be made good by the Contractor.

57. CO-ORDINATION WITH OTHER AGENCIES

Work shall be carried out in such a manner that the work of other Agencies operating at the site is not hampered due to any action of the Contractor. Proper Co-ordination with other Agencies will be Contractor“s responsibility. In case of any dispute, the decision of JSCL shall be final and binding on the contractor. No claim whatsoever shall be admissible on this account.

58. SETTING OUT OF THE WORKS

The contractor shall be responsible for the true and proper setting out of the works and for the correctness of the position, levels, dimensions and alignment of all parts of the works. If at any time during the progress of works, shall any error appear or arise in the position, levels, dimensions or alignment of any part of the works, the contractor shall at his own expenses rectify such error to the satisfaction of Engineer-in-charge. The checking of any setting out or of

any line or level by the engineers of JSCL shall not in any way relieve the contractor of his responsibility for the correctness.

59. NOTICE BEFORE COVERING UP THE WORK

The contractor shall give not less than seven days' notice before covering up or otherwise placing beyond the reach of measurement any work, to the Engineer-in-charge in order that the same may be inspected and measured. If any work is covered up or placed beyond the reach of inspection/measurement without such notice or his consent being obtained the same shall be uncovered at the contractor expenses and he shall have to make it good at his own expenses.

60. SITE CLEARANCE

The contractor shall ensure that the working site is kept clean and free of obstructions for easy access to job site and also from safety point of view. Before handing over the work to the JSCL the contractor shall remove all temporary structures like the site offices, cement go-down, stores, labour hutments etc., scaffolding rubbish, debris etc. left over materials tools and plants, equipment's etc., clean the site to the entire satisfaction of the Engineer-in-charge. If this is not done the same will be got done by JSCL at his risk and cost.

The contractor shall clean all floors, remove cement/ lime/ paint drops and deposits, clean joinery, glass panes etc., touching all painter's works and carry out all other necessary items of works to make the premises clean and tidy before handing over the building, and the rates quoted by the contractor shall be deemed to have included the same.

61. SET-OFF OF CONTRACTOR'S LIABILITIES

JSCL shall have the right to deduct or set off the expenses incurred or likely to be incurred by it in rectifying the defects and/or any claim under this agreement against the Contractor from any or against any amount payable to the contractor under this agreement including security deposit and proceeds of performance guarantee.

62. POSSESSION PRIOR TO COMPLETION

JSCL shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be any acceptance of any work not completed in accordance with the contract agreement. If such prior possession or use by JSCL delays the progress of work an equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly. The decision of JSCL in such case shall be final binding and conclusive.

When the whole of the works or the items or the groups of items of work have been completed the contractor will give a notice to that effect to the Engineer in writing. The Engineer shall

within 7 days of the date of receipt of such notice inspect the works and give instructions in writing to the contractor specifying the balance items of work which are required to be done by the contractor and shall also notify the contractor of any defect in the works affecting completion.

The contractor shall during the course of execution prepare and keep updated a complete set of „as built“ drawings to show each and every change from the contract drawings, changes recorded shall be countersigned by the Engineer-in-Charge and the contractor. Four copies of „as built“ drawings shall be supplied to JSCL by the contractor within 30 days of the completion. All costs incurred in this respect shall be borne by the contractor.

63. EMPLOYMENT OF PERSONNEL

The contractor shall employ only Indian Nationals as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no personnel of doubtful antecedents and any other nationality in any way is associated with the works.

In case JSCL observed misconduct negligence or incompetence etc. on the part of any representative, agent, servant and workmen or employees etc. of the contractor, the JSCL shall have full power and without giving any reason to the contractor, instruct the contractor to remove such engineer / staff / worker from site and provide suitable replacements. The decision of the Engineer-in-charge shall be final and binding on the contractor. The contractor shall not be allowed any compensation on this account.

64. TECHNICAL STAFF FOR WORK

The contractor shall employ at his cost the adequate number of technical staff during the execution of this work depending upon the requirement of work. For this purpose the numbers to be deployed, their qualification, experience as decided by JSCL shall be final and binding on contractor. The contractor shall not be entitled for any extra payment in this regard.

The technical staff should be available at site, whenever required by JSCL to take instructions.

Within 15 days of Letter of Intent, the contractor shall submit a site organizational chart and resume including details of experience of the Project-in-Charge and other staff proposed to be deputed by him and the technical team shall be deputed by them on the Project after getting approval from Engineer-in-Charge. If desired by the contractor at later date, the Project-in-Charge and other staff whose resume is approved by JSCL can be replaced with prior written approval of JSCL and replacement shall be with equivalent or superior candidate only. Decision of Engineer-in-Charge shall be final and binding on the contractor.

Even after approving the site organizational chart, the Engineer-in-Charge due to technical reasons and exigency of work can direct the contractor to depute such additional staff as in view of Engineer-in-Charge is necessary and having qualification and experience as approved by the Engineer-in-Charge. The removal of such additional staff from the site shall only be with the prior written approval of Engineer-in-Charge. The contractor shall not be paid anything extra whatsoever on account of deployment of additional staff and decision of the Engineer-in-Charge shall be final and binding on the contractor.

In case the contractor fails to employ the staff as aforesaid he shall be liable to pay a reasonable amount not exceeding a sum of Rs. 50,000 (Rupees Fifty Thousand only) for each month of default in the case of each person. The decision of the Engineer-in-charge as to number of Technical Staff to be adequate for the project and the period for which the desired strength of technical staff was not employed by the contractor and as to the reasonableness of the amount to be deducted on this account shall be final and binding on the contractor as to the amount and the contractor's liability to pay the said amount.

65. VALUABLE ARTICLES FOUND AT SITE

All gold, silver and other minerals of any description and all precious stones, coins, treasure, relics, antiques and all other similar things which shall be found in, under or upon the site, shall be the property of the owner/ JSCL.

66. MATERIALS OBTAINED FROM DISMANTLEMENT TO BE OWNER'S PROPERTY

All materials like stone, boulders and other materials obtained during the work of dismantling, excavation etc. will be considered JSCL/owner property and such materials shall be disposed off to the best advantage of JSCL/owner according to the instructions in writing issued by the Engineer-in-charge.

67. FURNISHED OFFICE ACCOMMODATION & MOBILITY COMMUNICATION TO BE ARRANGED BY CONTRACTOR

On acceptance of tender, the contractor at his own cost will construct a suitably equipped office at site with basic facilities such as telephone(s), fax, internet, photocopier, computer(s) and printer(s) along with operator(s), regular electric & drinking water supply and and e-vehicles for the JSCL's staff / Engineer in Charge (EIC) with driver, fuel and maintenance etc. as per the requirement of the project. The contractor shall maintain the aforesaid facilities intact/operational during the tenancy of the contract or maximum up to 6 months beyond the

stipulated contractual completion date if the work is delayed due to any reasons. Operation and maintenance cost of all such materials, equipment's / services shall be borne by the contractor.

The contractor shall also make sufficient arrangement for photography/video-graphy so that photographs video can be taken of any specific activity at any point of time. The contractor shall also make arrangement of software like MS Project etc. for the purpose of preparing progress report etc.

The contractor shall make all arrangements for ground breaking ceremony/inaugural function etc. for the project as required and the cost towards it deemed to be included in his rates/offer. Any expenditure already incurred/to be incurred by JSCL, shall be recovered from the contractor.

68. LABOUR LAWS

LABOUR LAWS TO BE COMPLIED BY THE CONTRACTOR

The contractor shall obtain a valid license under the contract labour (Regulation & Abolition) Act 1970 and the contract labour Act (Regulation & Abolition) Central Rules 1971 and amended from time to time, and continue to have a valid license until the completion of the work including defect liability period. The contractor shall also adhere by the provision of the child labour (Prohibition and Regulation) Act. 1986 and as amended from time to time.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill above requirement shall attract the penal provisions of this contract arising out the resultant for non-execution of the work before the commencement of work. No labour below the age of 18 years shall be employed on the work.

PAYMENT OF WAGES:

The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the JSCL Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the JSCL contractor's Labour Regulations in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorized made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

- (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.
- (b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned

The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.

The contractor shall indemnify and keep indemnified JSCL against payments to be made under and for the observance of the laws aforesaid and the JSCL Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.

The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

LABOUR SAFETY PROVISION

The contractor shall be fully responsible to observe the labour safety provisions:

The contractor shall at his own cost take all precautions to ensure safety of life and property by providing necessary barriers, lights, watchmen etc. during the progress of work as directed by Engineer-in-charge

In case of all labour directly or indirectly employed in work for the performance on the contractor's part of this contract, the contractor shall comply with all rules framed by Govt. from time to time for the protection of health and sanitary arrangements for workers.

OBSERVANCE OF LABOUR LAWS

The contractor shall be fully responsible for observance of all labour laws applicable including local laws and other laws applicable in this matter and shall indemnify and keep indemnified JSCL against effect or non observance of any such laws. The contractor shall be liable to make payment to all its employees, workers and sub-contractors and make compliance with labour laws. If JSCL or the client/ owner is held liable as "Principal Employer" to pay contributions etc. under legislation of Government or Court decision in respect of the employees of the contractor, then the contractor would reimburse the amount of such payments, contribution etc. to JSCL and/ or same shall be deducted from the payments, security deposit etc. of the contractor.

The Contractor shall submit proof of having valid EPF registration certificate. He shall within 7 days of the close of every month, submit to JSCL a statement showing the recoveries of contributions in respect of each employee employed by or through him and shall furnish to JSCL such information as the JSCL is required to furnish under the provisions of para 36 B of the EPF scheme 1952 to the EPF authorities and other information required by EPFO authorities from time to time. He shall also submit a copy of challan every month in token of proof of having deposited the subscription and contribution of workers engaged on the project.

In case, the contractor is not complying the above provision JSCL shall withhold payment to the extent of 4.70% (Four point Seven Zero percent) of the value of the Running Account bill and shall release only after the submission of above mentioned details. If it is incumbent upon JSCL to deposit withhold amount with EPF authorities, the withhold amount shall be deposited by JSCL with EPF authorities. In such a case JSCL shall not refund this withheld amount to the contractor even after the production of EPF registration certificate.

MINIMUM WAGES ACT

The contractor shall comply with all the provisions of the minimum wages Act, 1948, contract labour Act (Regulation & Abolition) 1970, and rules framed there under and other labour laws/local laws affecting contract labour that may be brought into force from time to time.

69. LABOUR CESS

The rates of the contractor shall be inclusive of labour cess. JSCL shall make a recovery @ 1% on account of labour cess from each RA bill of the contractor and labour cess so recovered/deducted shall be deposited with the Labour Board of the concerned state. In case the Labour Board is not established in the state, recovery made by JSCL on account of labour cess shall be retained under suspense account and will be deposited with the Labour Board at later date as & when the Labour Board is constituted in the state.

Every contractor, sub-contractor, affiliates, their legal assigns or heirs as the case may, shall be responsible for registration of every Building worker who has completed eighteen years of age but has not completed sixty years of age and who has been engaged in any Building or Other Construction Work for not less than Ninety Days during the preceding twelve months; with the Board / Funds as applicable under various sections of "THE BUILDINGS AND OTHER Construction workers (regulation of employment and conditions of service) act, 1996 and the building and other Construction workers" welfare cess act, 1996.

The contractor shall also be responsible for maintaining register of beneficiaries i.e. the workers in such form as may be prescribed by the competent authority & the same shall be kept open at all reasonable times for inspection of relevant authority and officials of client / JSCL.

The contractor shall be further responsible for maintaining such register & records; giving such particulars of Building workers employed by him, the work performed by them, the number of hours of work which shall constitute a normal working day, the wages paid to them, the receipts given by them and, such other particulars in such form as may be prescribed by the authority or JSCL.

In the event of contractor failing to comply with the above clause(s) in part or in full, JSCL, without prejudice to any other rights or remedy available under law or any other clause(s) of contract, shall be at absolute liberty to forfeit any sum or sums that are payable or could become payable on account of execution of contract work and decision of Engineer-in-charge shall be final & binding in this regard on the contractor.

70. RECOVERY OF COMPENSATION PAID TO WORKMEN

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen"s Compensation Act, 1923, JSCL is obliged to pay compensation to a workman employed by the contractor, in execution of the works, JSCL will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the JSCL under sub-section (2) of Section 12, of the said Act, JSCL shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due to the contractor

whether under this contract or otherwise. JSCL shall not be bound to contest any claim made against it under sub- section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to JSCL full security for all costs for which JSCL might become liable in consequence of contesting such claim.

71. ENSURING PAYMENT AND AMENITIES TO WORKERS IF CONTRACTOR FAILS

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, JSCL is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act or under the JSCL Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by JSCL's Contractors, JSCL will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to any other right or remedy available under this contract, JSCL shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by JSCL to the contractor whether under this contract or otherwise JSCL shall not be bound to contest any claim made against it under sub- section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the JSCL full security for all costs for which JSCL might become liable in contesting such claim.

72. CHANGE IN FIRM'S CONSTITUTION TO BE INTIMATED

Where the contractor is a partnership firm, the prior approval in writing of the Engineer- in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If prior approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention as per conditions of tender document hereof and the same action may be taken, and the same consequences shall ensue as provided in the said conditions of contract.

73. INDEMNITY AGAINST PATENT RIGHTS

The contractor shall fully indemnify the JSCL from and against all claims and proceedings for or on account of any infringement of any patent rights, design, trademark or name or other

protected rights in respect of any construction plant, machine, work or material used for in connection with the works or temporary works.

74. LAW COVERING THE CONTRACT

This contract shall be governed by the Indian laws for the time being in force.

75. LAWS, BYE-LAWS RELATING TO THE WORK

The contractor shall strictly adhere by the provisions, for the time being in force, of law relating to works or any regulations and bylaws made by any local authority or any water & lighting agencies or any undertakings within the limits of the jurisdiction of which the work is proposed to be executed. The contractor shall be bound to give to the authorities concerned such notices and take all approvals as may be provided in the law, regulations or bylaws as aforesaid, and to pay all fees and taxes payable to such authorities in respect thereof.

76. CONTRACT AGREEMENT

The Contractor shall enter into a Contract Agreement with the JSCL within 10 (TEN) days from the date of Letter of Intent or within such extended time, as may be granted by the JSCL failing which no payment shall be released to the contractor. The cost of stamp papers, stamp duty, registration, if applicable on the contract, shall be borne by the Contractor. In case, the contractor does not sign the agreement as above or start the work within 10 (Ten) days of the issue of Letter of Intent, his earnest money is liable to be forfeited and Letter of Intent consequently will stand withdrawn.

77. MANNER OF EXECUTION OF AGREEMENT

The agreement as per prescribed Performa as enclosed shall be signed at the office of the JSCL within 10(TEN days) days from the date of issue of Letter of Intent. The Contractor shall provide for signing of the Contract, appropriate Power of Attorney and the requisite documents/ materials. Unless and until a formal contract is prepared and executed, the Letter of Intent read in conjunction with the Tendering Documents will constitute a binding contract.

The agreement will be signed in five originals and the Contractor shall be provided with one signed original and the other four originals will be retained by the JSCL

The Contractor shall provide free of cost to the JSCL all the Engineering data, drawings and descriptive materials submitted along with the tender, in at least three (3) copies to form an integral part of the Agreement within seven 7 days after issuing of Letter of Intent.

Subsequent to signing of the Agreement, the Contractor at his own cost shall provide to the JSCL with at least five (5) true hard bound copies of Agreement within thirty (30) days of its signing.

78. JURISDICTION

The agreement shall be executed at JABALPUR on non-judicial stamp paper purchased in JABALPUR and the courts in JABALPUR alone will have jurisdiction to deal with matters arising there from, to the exclusion of all other courts.

79. ARBITRATION

1. Arbitration Procedure:

If the efforts, to resolve all or any of the disputes through conciliation fail, then such a dispute shall be referred within 30 days from conclusion of conciliation process to a Sole Arbitrator who would be nominated by Executive Director Jabalpur Smart City Ltd, Jabalpur. The arbitration and conciliation act 1996 as amended from time to time will be applicable. The venue of such arbitration shall be at Jabalpur. The award of the sole Arbitrator shall be binding on all parties. The cost of Arbitration shall be borne by the respective parties. There will be no objections if the sole arbitrator nominated or appointed is an employee of JSCL.

2. The place of arbitration shall be Jabalpur, M.P.

3. English Language

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and awards shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings. The award shall be made in writing.

4. Enforcement of Award

The Parties agree that the decision or award, which shall be a speaking order, resulting from arbitration shall be final and binding upon the Parties and shall be enforceable in accordance with

the provision of the Arbitration and Conciliation Act 1996 subject to the rights of the aggrieved parties to secure relief from any higher forum.

5. Performance during Arbitration

The Arbitration Proceedings shall be governed by Indian Arbitration and Conciliation Act 1996, as amended from time to time including provisions in force at the time the reference is made. Pending the submission of and/or decision on a Dispute and until the arbitral award is

published; the Parties shall continue to perform their respective obligations under this Agreement without prejudice to a final adjustment in accordance with such award. The courts at Jabalpur shall have the sole exclusive jurisdiction to try all the cases arising out of this agreement.

6. Notices

That any notice under the terms of this License shall be in writing by registered post or delivered personally and signed by the party or his/its duly authorized representative giving such notice. All activities including day to day management, billing, termination etc. will be carried out from the office of the CEO, Jabalpur Smart City Limited Jabalpur or by his duly authorized representative. Notice shall be addressed as follows:

Chief Executive Officer

SECTION-4
LABOUR SAFETY, HEALTH AND REGULATIONS INCLUDING FORMS

1. LABOUR SAFETY PROVISIONS

Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand holds shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 (1/4 horizontal and 1 vertical).

Scaffolding or staging more than 3.6m (12 feet) above the ground or floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3 feet) 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 opening 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 building or structure.

Working platforms, gangways, and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more that 3.6m (12 feet) above ground level or floor level, they should be closely boarded, should have adequate width & should be suitable fastened as described in (2.0) above.

Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm (3 feet).

Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30 feet) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11.5") for ladder up to and including 3m (10 feet) in length. For longer ladders this width should be increased at least 1/4" for each additional 30 cm (1 ft.) of length. Uniform step spacing shall not exceed 30 cm (12"). Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of the work 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 accident, and shall be bound to bear the expenses of defense of every suit, action or other proceeding 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 cost 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 compensate any claim by any such person.

2. EXCAVATION AND TRENCHING

All trenches, 1.2mts.(four feet) or more in depth, shall at all times be supplied with at least one ladder for each 30m.(100 feet) in length or fraction thereof, ladder shall be extended from bottom of the trench to at least 90cm (3feet) above the surface of the ground. The side of the trenches, which are 1.5 m. (5feet) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger or sides to collapsing. The excavated materials shall not be placed within 1.5m (5 feet) of the edges of the trench or half of the depth of the trench whichever is more.

Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

Demolition - Before any demolition work is commenced and also during the progress of the work following precautions shall be observed:

All roads and open areas adjacent to the work site shall either be closed or suitably protected.

No electric cable or apparatus which is likely to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.

All practical steps shall be taken to prevent danger to persons employed from risk or fire or explosion or flooding. No floor, roof or other part of the building shall be overloaded with debris or materials as to render it unsafe.

All necessary personal safety equipment“s as considered adequate by the Engineer-in- charge should be kept available for the use of persons employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate step to ensure proper use of equipment by those concerned. The following safety equipment shall be invariably provided.

Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

Those engaged in white washing and mixing or stacking of cement bags or any materials which are injurious to the eye shall be provided with protective goggles.

Those engaged in welding works shall be provided with welders protective eye shields.

Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe interval.

When workers are employed for works in sewers and manholes, which are in active use, the Contractors shall ensure that the manhole covers are opened and ventilated at-least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident the public. In addition, the contractor shall ensure that the following safety measures are adhered to:

Entry for workers into the sewer line shall not be allowed except under supervision of the JE or any other higher officer.

At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manholes for working inside.

Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes color in the presence of such gases and gives indication of their presence. Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

Safety belt with rope should be provided to the workers. While working inside the manholes such rope should be handled by two men standing outside to enable him to be pulled out during emergency.

The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

No smoking or open flames shall be allowed near the blocked manhole being cleaned.

The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.

Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-In-charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

Gas masks with Oxygen Cylinder should be kept at site for use in emergency.

Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air-blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at-least 2 metres away from the opening and on the leeward side

protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole.

The workers shall be provided with Gumboots or non sparking shoes, bump helmets and gloves non sparking tools, safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.

Workmen descending a manhole shall try each ladder step or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.

If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-In-charge regarding the steps to be taken in this regard in an individual case will be final.

The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form wherever men above the age of 18 are employed on the work of lead painting the following precautions should be taken.

No paint containing lead or lead products shall be used except in the form of paste or readymade paint.

Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.

Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.

- 2.1 a) White lead, sulphate or lead work products containing those pigments shall not be used in painting operation except in the form of paste or of paints ready for use. Measures shall be taken whenever required in order to prevent danger arising from the application of paint in the form of spray.

Measures shall be taken, whenever practicable to prevent danger arising out of dust caused by dry rubbing down and scrapping.

- f) Adequate facilities shall be provided to enable working painter to wash during and on cessation of work.
- g) Suitable arrangements shall be made to prevent clothing put off during working hours being spoiled by painting materials.

2.2 a) Cases of lead poisoning and of suspected lead poisoning shall be notified and shall be subsequently verified by a medical man appointed by the competent authorities of JSCL.

The JSCL may require when necessary a medical examination of workers.

Instructions with regard to the special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

When the work is done near any place where there is risk of drowning, all necessary equipment's should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provisions should be made for prompt first aid treatment for all injuries likely to be sustained during the course of the work.

Use of hoisting machines and tackle including their attachment encourage and supports shall conform to the following standard of conditions.

b) 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. 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 patent defects.

Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffolding, winch or giving signals to operator.

In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this clause shall be loaded beyond the safe working load except for the purpose of testing.

In case of JSCL machines, the safe working load shall be notified by the Engineer-in-Charge. As regards Contractor's machines the Contractor shall notify the safe working load of the machine

to the Engineer-in-charge whenever he brings any machinery to site of work and get verified by the Engineer-in-Charge.

Motors gearing, transmission electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguard. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel, such as gloves sleeves and boots as may be necessary be provided. The worker should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.

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

These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place of work spot. The person responsible for compliance of the safety codes shall be named therein by the contractor.

To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the Contractor shall be open to inspection by JSCL Official or their representatives.

Notwithstanding the above Clauses from (i) to (xiv) there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

SECTION-5
FORMS AND FORMATS

PROFORMAS:

PERFORMA- I

The list of similar works as stated in the Minimum Qualification requirement for Bidders and Similar Works – Clause I

PROFORMA- I					
Sr.No.	Name of the Project	Name of the employer	Stipulated date of completion	Actual date of completion	Actual Cost of work done
1	2	3	4	5	6

NOTE:

Scanned Attested copies of completion/performance certificates from the Engineer-in- Charge for each work should be annexed in the support of information furnished in the above proforma.

Works shall be grouped financial year-wise.

PERFORMA II

Yearly turnover of Construction Works during the last three years.

PROFORMA- II					
Sr.No.	Financial year	Annual Turnover of Construction Works	Updated value to current year	Average of last 3years	Page No.
1					
2					
3					
Total					

NOTE: The above figures shall tally with the audited balance sheets uploaded by the Bidders duly certified by Chartered Accountant.

FORM XXV
DETAILS OF THE BALANCE WORK IN HAND AS ON
(UPTO THE PRECEDING MONTH OF SUBMISSION OF BID)

(To be submitted in Envelop-1)

S. No	Name of the Unit/Zone/SBG/RGB	Contract Value	Date of start as per LOI/ Contract	Date of completion as per LOI /Contract	Work done up to the preceding month of submission of bid	Balance value of work

***Note:** The bidder shall also include the value of all such works which are awarded to bidder but yet not started up to the preceding month of submission of bid.*

FORM XXVI AFFIDAVIT

(To be submitted by bidder on non-judicial stamp paper of Rs. 100/- (Rupees Hundred only)
duly attached by Notary Public)
(To be submitted in Envelop-1)

Affidavit of Mr.S/o

R/o

I, the deponent above named do hereby solemnly affirm and declare as under:

That I am the Proprietor/Authorized signatory of M/s
.....having its Head Office/Regd. Office at
.....

That the information/documents/Experience certificates submitted by
M/s..... along with the tender for (NAME OF WORK).....

To JSCL Ltd. are genuine and true and nothing has been concealed.

I shall have no objection in case JSCL verifies them from issuing authority (ies). I shall also have
no objection in providing the original copy of the document(s), in case JSCL demand so for
verification.

I hereby confirm that in case, any document, information & / or certificate submitted by me
found to be incorrect / false / fabricated, JSCL at its discretion may disqualify / reject / terminate
the bid/contract and also forfeit the EMD / All dues.

I shall have no objection in case JSCL verifies any or all Bank Guarantee(s) under any of the
clause(s) of Contract including those issued towards EMD and
Performance Guarantee from the Zonal Branch /office issuing Bank and I/We shall have no right
or claim on my submitted EMD before JSCL receives said verification.

That the Bank Guarantee issued against the EMD issued by (name and address of the Bank) is
genuine and if found at any stage to be incorrect / false / fabricated, JSCL shall reject my bid,
cancel pre-qualification and debar me from participating in any future tender for three years.

I,, the Proprietor / Authorised signatory of
M/s..... do hereby confirm that the contents of the above Affidavit are true to
my knowledge and nothing has been concealed there from..... and that no part of it
is false.

Verified at this..... day of

DEPONENT

ATTESTED BY (NOTARY PUBLIC)

APPLICATION FOR EXTENSION OF TIME

(To be completed by the Contractor)

P A R T –I

Name of Contractor

Name of the work as given in the Agreement Agreement No.

Estimated amount put to tender

Date of commencement work as per agreement

Period allowed for completion of work as per agreement Date of completion stipulated as per agreement

Period for which extension of time has been give previously

Extension granted

First extension vide Engineer-in- charge letter No...date Months Days

2nd extension vide Engineer-in-charge letter No..... date Months Days

3rd extension vide Engineer-in-charge letter No..... date Months Days

4th extension vide engineer-in-charge letter No..... date Months Days

Total extension previously given

Reasons for which extension have been previously given (copies of the previous application should be attached) Period for which extension is applied for:

Hindrances on account of which extension is applied for with dates on which hindrances occurred, and the period for which these are likely to last.

Serial No.

Nature of hindrance Date of Occurrence

Period for which it is likely to last

Period for which extension required for this particular hindrance. Over lapping period, if any, with reference to item

Net extension applied for Remarks, if any

Total period for which extension is now applied for on account of hindrances mentioned above
Month/ days.

Extension of time required for extra work.

Details of extra work and on the amount involved:

Total value of extra work

Proportionate period of extension of time based on estimated amount put to tender on account of extra work.

Total extension of time required for 11 & 12 Submitted to the Engineer-in-Charges office.

SIGNATURE OF CONTRACTOR

DATE

**APPLICATION FOR EXTENSION OF TIME
(PART – II)**

Date of receipt of application from Contractor for the work in the Engineer-in-charge office.

Acknowledgement issued by Engineer-in-charge vide his letter No. dated Engineer-in-charge remarks regarding hindrances mentioned by the Contractor.

Serial No.

Nature of hindrance

Date of occurrence of hindrance

Period for which hindrance, is likely to last

Extension of time period applied for by the contractor Over lapping period, if any, giving reference to items which over lap

Net period for which extension is recommended. Remarks as to why the hindrance occurred and justification for extension recommended.

Engineer-in-charge recommendations.

The present progress of the work should be stated and whether the work is likely to be completed by the date up to which extension has been applied for. If extension of time is not recommended, what compensation is proposed to be levied under the agreement.

SIGNATURE OF ENGINEER-IN- CHARGE

To

NAME

PROFORMA FOR EXTENSION OF TIME P A R T -III

ADDRESS OF THE CONTRACTOR

SUBJECT:

Dear Sir(s)

Reference your letter No dated , in connection with the grant of extension of time for completion of the work.....

The date of completion for the above mentioned work, is as stipulated in the agreement, dated

Extension of time for completion of the above mentioned work is granted upto , without prejudice to the right of the JSCL to recover compensation for delay in accordance with the provision made in Clause of the said agreement dated the / / . It is also clearly understood that the JSCL shall not consider any revision in contract price or any other compensation whatsoever due to grant of this extension.

Provided that notwithstanding the extension hereby granted, time is and shall still continue to be the essence of the said agreement.

Yours faithfully,

FOR Jabalpur Smart City Ltd Ltd.

PERFORMA OF BANK GUARANTEE IN LIEU OF EMD (TENDER BOND)
(Judicial Stamp paper of appropriate value as per stamp Act-of respective state)

Jabalpur Smart City Ltd
Manas Bhavan Wright Town
Jabalpur, Madhya Pradesh 482001

In consideration of Jabalpur Smart City Ltd , having its Registered Office at, Manas Bhawan, Wright Town, Jabalpur (hereinafter called "JSCL" which expression shall unless repugnant to the subject or context include its successors and assigns) having issued Notice Inviting Tender No.....

and M/s..... having its Registered Head Office at..... (hereinafter called the "BIDDER") is to participate in the said tender for.....

Whereas JSCL, as a special case, has agreed to accept an irrevocable and unconditional Tender Bond Guarantee for an amount of Rs..... valid upto from

the Bidder in lieu of Cash Deposit of Rs..... required to be made by the Bidder, as a condition precedent for participation in the said tender.

We the (hereinafter called the "BANK") having its Registered, Office at.....

and branch office at..... do hereby unconditionally and irrevocably undertake to pay immediately on demand in writing and without demur/protest any amount but not exceeding Rs Any such demand

made by JSCL shall be conclusive and binding on us irrespective of any dispute or differences that may be raised by the Bidder. Any change in the constitution of the Bidder or the Bank shall not discharge our liability under the guarantee.

We, the..... Bank, lastly undertake not to revoke this guarantee during its currency without the prior consent of JSCL in writing and this guarantee shall remain valid upto.....Unless a claim is made within three months from the date of expiry i.e (three months after the date of expiry), we shall be relieved of our liability

under this guarantee thereafter.

FOR AND ON BEHALF OF BANK

PLACE : DATED :

WITNESS.

1.

2

PERFORMA OF BANK GUARANTEE (PERFORMANCE)

(Judicial Stamp paper of appropriate value as per stamp Act-of respective state)

Jabalpur Smart City Ltd

Manas Bhawan, Wright town

Jabalpur, Madhya Pradesh 482001

Whereas the Jabalpur Smart City Ltd , having its registered Office at Manas Bhawan, Wright Town, Jabalpur (hereinafter called "JSCL" which expression shall include its successors and assigns having awarded a work order/contract / supply order No. dated (hereinafter called the contract) to M/s(hereinafter called the contractor/supplier) at a total price of Rs. subject to the terms and conditions contained in the contract.

WHEREAS, the terms and conditions of the contract require the contractor to furnish a bank guarantee for Rs.(Rupees) being% of the total value of the contract for proper execution and due fulfillment of the terms and conditions contained in the contract.

We the bank, (hereinafter called the "Bank") do hereby unconditionally and irrevocably undertake to pay to JSCL immediately on demand in writing and without protest/or demur all the moneys payable by the contractor/supplier to JSCL in connection with the execution/supply of and performance of the works/equipment, inclusive of any loss, damages, charges, expenses and costs caused to or suffered by or which would be caused to or suffered by JSCL by reason of any breach by the contractor/supplier of any of the terms and conditions contained in the contract as specified in the notice of demand made by JSCL to the bank. Any such demand made by JSCL on the bank shall be conclusive evidence of the amount due and payable by the bank under this guarantee. However, the bank's liability under this guarantee, shall be limited to Rs..... In the aggregate and the bank hereby agrees to the following terms and conditions:-

i. This guarantee shall be a continuing guarantee and irrevocable for all claims of JSCL as specified above and shall be valid during the period specified for the performance of the contract including the period of maintenance/warranty i.e up to.....

ii. We, the said bank further agree with JSCL that JSCL shall have the fullest liberty without our consent and without affecting in any manner our obligations and liabilities hereunder to vary any of the terms and conditions of the said contract or to extend time for performance of contract by the contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by JSCL against the contractor/supplier under the contract and forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variations or extension being

granted to the contractor or for any forbearance, act or omission on the part of JSCL or any indulgence by JSCL to the contractor or by any such matter or thing whatsoever, which under the law relating to the sureties would, but for this provision, have effect of so relieving us.

This guarantee/undertaking shall be in addition to any other guarantee or security whatsoever JSCL may now or at any time have in relation to the performance of the works/equipment and the company shall have full re-course to or enforce this security in performance to any other security or guarantee which the JSCL may have or obtained and there shall be no forbearance on the part of the company in enforcing or requiring enforcement of any other security which shall have the effect of releasing the Bank from its full liability. It shall not be necessary for JSCL to proceed against the said contractor/supplier before proceeding against the Bank.

This guarantee/ undertaking shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier/ contractor, but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to JSCL in terms thereof are paid by the Bank.

The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the bank in terms hereof, shall not be otherwise effected or suspended by reasons of any dispute or disputes having been raised by the supplier/contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial of liability by the supplier/contractor stopping or preventing or purporting to stop or prevent any payment by the Bank to JSCL in terms hereof.

We, the said Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of JSCL in writing. Unless a claim is made in writing within three months from the date of expiry of this guarantee i.e (three months after the date of expiry) we shall be from all liabilities

relieved under this guarantee thereafter. Signed this day of at.....

For and on behalf of Bank

WITNESS.

1.

2.

PERFORMA OF BANK GUARANTEE (FOR MOBILIZATION ADVANCE)
(Judicial Stamp paper of appropriate value as per stamp Act-of respective state)

Jabalpur Smart City Ltd
Manas Bhawan, Wright town
Jabalpur, Madhya Pradesh 482001

1.0 In consideration of the Jabalpur Smart City Ltd, having its Registered Office at Manas Bhawan, Wright Town, Jabalpur (hereinafter called "JSCL" which expression shall unless repugnant to the subject or context include his successor and assigns) having agreed under the terms and conditions of Contract No..... dated made between..... and JSCL in connection with..... (hereinafter called "the said contract") to make at the request of the Contractor a Mobilization Advance of Rs..... for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable to JSCL, we the Bank Ltd., (hereinafter referred to the "the said Bank") and having our registered office at..... do hereby guarantee the due recovery by JSCL of the said advance as provided according to the terms and conditions of the Contract. We..... do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from JSCL stating that the amount claimed is due to JSCL under the said Agreement. Any such demand made on the shall be conclusive as regards the amount due and payable by the..... under this guarantee and..... agree that the liability of the to pay JSCL the amount so demanded shall be absolute and unconditional notwithstanding any dispute or disputes raised by the Contractor and notwithstanding any legal proceeding pending in any court or Tribunal relating thereto. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs..... We Bank further agree that JSCL shall be the sole judge of and as to whether the amount claimed has fallen due to JSCL under the said agreement or whether the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by JSCL on account of the said advance together with interest not being recovered in full and the decision of JSCL that the amount has fallen due from contractor or the said Contractor has not utilized the said advance or any part thereto for the purpose of the contract and as to the amount or amounts of loss or damage caused to or suffered by JSCL shall be final and binding on us.

We, the said Bank, further agree that the Guarantee herein contained shall remain in full force and effect till the said advance has been fully recovered and its claims satisfied or discharged and till JSCL certify that the said advance has been fully recovered from the said Contractor,

and accordingly discharges this Guarantee subject, however, that JSCL shall have no claims under this Guarantee after the said advance has been fully recovered, unless a notice of the claims under this Guarantee has been served on the Bank before the expiry of the said Bank Guarantee in which case the same shall be enforceable against the Bank.

JSCL shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee or indemnity from time to time to vary any of the terms and conditions of the said Contract or the advance or to extend time of performance by the said Contractor or to postpone for any time and from time to time of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of terms and conditions governing

the said Contract or the advance or securities available to JSCL and the said Bank shall not be released from its liability under these presents by any exercise by JSCL of the liberty with reference to the matters aforesaid or by reasons of time being given to the said Contractor or any other forbearance, act or omission on the part of JSCL or any indulgence by JSCL to the said Contractor or of any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of so releasing the bank from its such liability. 5.0 It shall not be necessary for JSCL to proceed against the Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding any security which JSCL may have obtained or obtain from the Contractor or shall at the time when proceedings are taken against the Bank hereunder be outstanding or unrealized.

We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of JSCL in writing and agree that any change in the constitution of the said Contractor or the said Bank shall not discharge our liability hereunder.

Dated thisday of.....

Dated For and on behalf of Bank

**PERFORMA OF BANK GUARANTEE
(IN LIEU OF SECURITY DEPOSIT)**

(Judicial Stamp paper of appropriate value as per stamp Act-of respective state)

Jabalpur Smart City Ltd.,
Manas Bhawan, Wright Town,
Jabalpur

In consideration of the Jabalpur Smart City Development Corporation Ltd., having its registered Office at Manas Bhawan, Wright Town, Jabalpur(hereinafter called "JSCL") which expression shall include its successors and assigns having awarded to M/s.....(hereinafter called "the supplier/Contractor") which expression shall wherever the subject or context so permits includes its successors and assigns) a Contract in terms inter-alia of JSCL's letter No..... dated..... and the Contract/Purchase Conditions of JSCL and upon the condition of the Supplier/Contractor furnishing Security for the performance of the Supplier's obligations and /or discharge of the contractor's/supplier's liability under and/or in connection with the said supply contract upto a sum of Rs..... (Rupees. only)

We,..... ((hereinafter called "The Bank") which expression shall include its successors and assigns) hereby undertake and guarantee payment to JSCL forthwith on the same day on demand in writing and without protest or demur of any and all moneys payable by the supplier/contractor to JSCL under, in respect or in connection with the said contract inclusive of all the losses, damages, costs, charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by JSCL to the Bank with reference to this guarantee up to and aggregate limit of Rs.....(Rupees.....only) and the bank hereby agree with JSCL that:

This Guarantee shall be continuing guarantee and shall remain valid and irrevocable for all claims of JSCL and liabilities of Supplier/Contractor arising upto and until midnight of.....

This Guarantee shall be in addition to any other Guarantee or Security whatsoever that JSCL now or at any time have in relation to the Supplier's obligations/liabilities under and/or in connection with the said supply/contract, and JSCL shall have full authority to take recourse or to enforce this Security in preference to any other Guarantee or Security which JSCL may have or obtain and no forbearance on the part of JSCL in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its liability hereunder.

JSCL shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other security in respect of the Supplier's/Contractor's obligations and/ or liabilities under or in connection with the said supply/contract or to grant time and / or indulgence to the supplier / contractor or to increase or otherwise vary the prices or the total contract value or to release or to forbear from enforcement of all or any of the conditions under the said supply / contract and / or the remedies of JSCL under any other

security/securities now or hereafter held by JSCL and no such dealings, increase(s) or other indulgence(s) or arrangement(s) with the supplier / contractor or releasing or forbearance whatsoever shall have the effect of releasing the Bank from its full liability to JSCL hereunder or prejudicing rights of JSCL against the Bank. This Guarantee shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier / contractor but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to JSCL in terms thereof.

5. The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the Bank in terms hereof shall not be otherwise affected or suspended by reason of any dispute or disputes having been raised by the supplier /contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial or liability by the supplier/ contractor stopping/ preventing or purporting to stop or prevent any payment by the Bank to JSCL in terms thereof.

The amount stated in any notice of demand addressed by JSCL to the Guarantor as liable to be paid to JSCL by the supplier/contractor or as suffered or incurred by JSCL on account of any losses or damages, costs, charges and / or expenses shall as between the Bank and JSCL be conclusive of the amount so liable to be paid to JSCL or suffered or incurred by JSCL as the case may be and payable by the Guarantor to JSCL in terms hereof subject to a maximum of Rs

(Rupees only), unless demand or claim under this Guarantee is made on the Guarantor in writing

within three months form the date of expiry of the Guarantee i.e upto the Guarantor shall be discharged from all liabilities under this Guarantee there under.

Notwithstanding anything contained herein before our liability under this guarantee is restricted to Rs (Rupeesonly). This guarantee will expire on..... Any claim under this Guarantee must be received by us within three months from the date of expiry i.e. (date, three months after the expiry date) and if no such claim has been received by us by that date all your rights under this guarantee will cease.

For and on behalf of the Bank

Place

Date

WITNESS:

1.

2.

PERFORMA OF BANK GUARANTEE
(FOR MOBILIZATION ADVANCE WITH INTEREST BEARING)
(Judicial Stamp per Stamp Act - paper of appropriate value as respective state)

Jabalpur Smart City Ltd,

Jabalpur, Pin- 482001

In consideration of the Jabalpur Smart City Ltd., having its Registered Office at Jabalpur -482001 (hereinafter called "JSCL" which expression shall unless repugnant to the subject: or context Include his successor and assigns) having agreed under the terms and conditions of Contract No. dated made between (name of the contractor) and JSCL in connection with (name of work) (hereinafter called "the said contract") to make at the request of the Contractor a Mobilization Advance of Rs._____carrying interest @ ... % p.a. for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable to JSCL, we the Bank (hereinafter referred to the "the said Bank") and having our registered office at do hereby guarantee the due recovery by JSCL of the said advance alongwith interest as provided according to the terms and conditions of the contract. We do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely, on a demand from JSCL stating that the amount claimed is due to JSCL under the said Agreement. Any such demand made on the said bank shall be conclusive as regards the amount due and payable by the said contractor under this guarantee and agree that the liability of the said bank to pay JSCL the amount so demanded shall be absolute and unconditional notwithstanding any dispute or disputes raised by the Contractor and notwithstanding any legal proceeding pending in any court or Tribunal relating thereto. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs ... inclusive of interest @% p.a.

We the said bank further agree that JSCL shall be the sole judge of and as to whether the amount claimed has fallen due to JSCL under the said agreement or whether the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by JSCL on account of the said advance together with interest not being recovered in full and the decision of JSCL that the amount has fallen due from' contractor or the said Contractor has not utilized the said advance or any part thereto for the purpose of the contract and as to the amount or amounts of loss or damage caused to or suffered by JSCL shall be final and binding on us.

We, the said Bank, further agree that the Guarantee herein contained shall remain

in full force and effect till the said advance has been fully recovered and its claims satisfied or discharged and till JSCL certify Contractor, and accordingly discharges this Guarantee subject, however, that JSCL shall have no claims under this Guarantee unless a notice of the claims under this Guarantee has been served on the Bank before the expiry of the said Bank Guarantee in which case the same shall be enforceable against the Bank.

JSCL shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee or indemnity from time to time to vary any of the terms and conditions of the said Contract or the advance or to extend time of performance by the said Contractor or to postpone for any time and from time to time of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of terms and conditions governing the said Contract or the advance or securities available to JSCL and the said Bank shall not be released from its liability under these presents by any exercise by JSCL of the liberty with reference to the matters aforesaid or by reasons of time being given to the said Contractor or any other forbearance, act or omission on the part of JSCL or any indulgence by JSCL to the said Contractor or of any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of so releasing the bank from its such liability.

It shall not be necessary for JSCL to proceed against the Contractor before proceeding against the Bank and Guarantee herein contained shall be enforceable against the Bank notwithstanding any security which JSCL may have obtained or obtain from the Contractor or shall at the time when proceedings are taken against the Bank hereunder be outstanding or unrealized.

We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of JSCL in writing and agree that any change in the constitution of the said Contractor or the said Bank shall not discharge our liability hereunder.

Dated this..... day of.....

Place:

Date:

Witness:

PERFORMA OF INDENTURE FOR SECURED ADVANCE OR CREDIT

THIS INDENTURE made this day of _____ Between _____
(hereinafter called the contractor) which expression shall where the Context as admits or implies be deemed to include his executor/administrators and assign of the one part and-----
-----, having its Registered Office at -----

Jabalpur (hereinafter called the Engineer) which expression shall where the context so admits or implies be deemed to include its successors and assign of the other part.

Whereas by an agreement dated (hereinafter called the said agreement). The Contractor has agreed to construct.....

And whereas the Contractor has applied to the Engineer that he may be or be given credited for materials brought by him to the site of the work subject to the said agreement for use in construction of the work.

NOW THIS INDENTURE WITNESS ETH that in pursuance of the said agreement and in consideration of the sum of Rs. _____ (Rupees _____ only) paid to the contractor by the Engineer. The receipt where the Contractor hereby acknowledges and of such advance or credited (if any) as may be made to him as aforesaid the Contractor hereby covenants and agrees with The Engineer and declares as follows:

That all sums given as advance or credit by The Engineer to the Contractor as aforesaid shall be employed by the Constructor in or toward the execution of the said works and for no other purpose whatsoever.

That the material for which the advance or credit is given are offered to and accepted by The Engineer as security and are absolutely the Contractor's own property and free from encumbrances of any kind the Contractor will not make any application for or receives further advance or credit on the security or material which are not absolutely his own property and free from encumbrances of any kind and the Contractor shall indemnify The Engineer against any claims to any material in respect of which advance or credit has been made to him as aforesaid.

That the said material and all other material on the security of which any further advance or advances or credit may be given as aforesaid (hereinafter called the said materials) shall be used by the Contractor s solely in the execution of the said works in accordance with the direction of the Engineer and in terms of said agreement.

That the Contractor shall make at his own cost all necessary and adequate arrangement for the proper safe custody and protection against all risks of the said material and that until used in the construction as aforesaid the material shall remain at the site of the said works in Contractor's custody and on his responsibility and shall at all times be open to inspection by The Engineer. In the events of the materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in greater degree than in due to reasonable use and wear

thereof the Contractor will replace the same with other materials of like quality of repair and make good the same as required by The Engineer.

That said material shall not on any account be removed from the site of work except with the written permission of The Engineer.

That the advance shall be repayable in full when or before Contractor receives payment from The Engineer of the price payable to him for the said work under the term and provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done then on the occasion of each payment The Engineer will be at liberty to make a recovery from the Contractor's bill from such payments by deducting there from the value of the said materials than actually used in the contraction and in respect of which recovery has not been made previously. The value of this purpose being determined in respect of each description of materials at the rates at which the amounts of the advance as made under these presents was calculated.

That if the Contractor shall at any time make at any default in the performance of observance in respect of any of the terms and provisions of the said agreement or of that provisions the total amount of the advance or advances that may still be owing to The Engineer, shall immediately on the happening of such default be repayable by the Contractor to The Engineer together with interest thereon at 12%

p.a. from the date of respective dated to such advance or advances to the date of payment and with all costs. Damages and expenses incurred by The Engineer in or for recovery hereof or the Contractor hereby covenants and agrees with The Engineer to repay and pay the same respective to him accordingly

That the Contractor hereby charges all the said materials with the repayment to The Engineer of all sums advances or credit as aforesaid and all costs. Charges, damages and expenses payable under these presents PROVIDED ALWAYS it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and wherever the covenant for payment and repayment herein before contained shall be become enforceable and the money owing shall not be paid in accordance therewith. The Engineer may at any time thereafter adopt all or any of the following courses he may deem best: Seize the utilize the said material or any part thereof in the completion of the said works in accordance with the provision in that behalf contained in the said agreement debating the Contractor with the actual cost of effecting such completion and the amount due in respect of advance or credit under these presents and crediting the Contractor with value of work done as if he has carried it out in accordance with the said agreement and the rates thereby provided if the balance is against the Contractor is to pay the same to the engineer on demand.

Remove and sell by public action the seized materials or any part thereof and out of the money arising from the sale repay the engineer under these presents and pay over the surplus (if any) to the Contractor.

Deduct all or any part of the moneys owing from any sums due to the contractor under said agreement.

Except in the event of such default on the part of contractor as aforesaid, interest on the said advance shall not be payable.

That in the event of conflict between the provisions of these presents and the said agreements, the provision of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents, the settlement of which has not been hereinbefore expressly provided for the same shall so far as is lawful be subject to jurisdiction of JABALPUR courts only.

IN WITNESS whereof the said the engineer and the contractor hereunto set their respective hands and seals the day year first above written.

Signed Sealed and delivered by Contractor

The Engineers

AGREEMENT FORM
AGREEMENT

This agreement, made on the _____ day of _____ between:
_____ (name and address of Employer) (hereinafter called "the Employer")
and _____ (name and address of contractor) hereinafter
called "the Contractor" of the other part.

Whereas the Employer is desirous that the Contractor execute
_____ (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 cost of Rs.....

NOW THIS AGREEMENT WITNESSED as follows:

1. In this Agreement, words and expression shall have the same meaning 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 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. Contractor's Bid
 - iii. Condition of Contract: General and Special -
 - iv. Contract Data
 - v. - Bid Data
 - vi. Drawings
 - vii. Bill of Quantities and
 - viii. Any other documents listed in the Contract Data as forming part of the Contract.

In witnessed whereof the parties there to 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 _____

FORM 7 - FORM OF POWER OF ATTORNEY FOR SIGNING THE BID DOCUMENTS

(On a Stamp Paper of relevant value)

Know all men by these presents, we, (name of Contractor and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr / Ms..... son/daughter/wife of and presently residing at, who is presently employed with us and holding the position of as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of bid for the for "Design, Development and Implementation of Rain Water Harvesting System based on Advanced Rain Water Harvesting Technology at various Locations in Jabalpur City including operation & maintenance of project for 5 years on Engineering, Procurement & Construction (EPC) Basis" being developed by the JSCL including but not limited to signing and submission of all applications, proposals/bids and other documents and writings, participating in pre-bid and other conferences and providing information/ responses to JSCL, representing us in all matters before JSCL, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with JSCL in all matters in connection with or relating to or arising out of our Proposal for the said work and/or upon award thereof to us till the entering into of the agreement with JSCL.

AND GENERALLY to act as our Attorney or agent on behalf of us in relation to the bid for "Design, Development and Implementation of Rain Water Harvesting System based on Advanced Rain Water Harvesting Technology at various Locations in Jabalpur City including operation & maintenance of project for 5 years on Engineering, Procurement & Construction (EPC) Basis" (and to execute and do all instruments, acts, deeds, matters and things in relation to the said Proposal or any incidental or ancillary activity, as fully and effectually in all respects as we could do if personally present.

AND We hereby agree to ratify and confirm and agree to ratify and confirm all acts, deeds and things whatsoever lawfully done or caused to be done by our said Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF 2019

For

(Signature, name, designation and address)

Witness

1. 2.

Notarized Accepted

(Signature, name, designation and address of the Attorney)

AFFIDAVIT *(Black listing)

1. I, the undersigned, do hereby certify that all the statements made in the Tender document are true and correct.
2. The undersigned also hereby certifies that neither our firm M/s. nor any of its constituent partners are blacklisted by any of the Govt./Semi Govt. institutions and not have abandoned any work of buildings / Infrastructures works in India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this application.

Signed by an Authorized Officer of the Firm

Title of Officer

Name of Firm

Date

SECTION-6
SPECIAL CONDITION OF CONTRACT (SCC)

SPECIAL CONDITIONS OF CONTRACT (SCC)

1. a) GENERAL-

- 1.1 The following special conditions shall be read in conjunction with General conditions of contract. If there are any provisions in these Special Conditions, which are at variance with the provisions of General Conditions of Contract, the provisions in the Special Conditions shall take precedence.
- 1.2 Where any portion of Special Conditions of Contract is repugnant to or at variance with any provision of the instructions to Bidder and General Conditions of Contract and / or the other documents forming part of the contract then unless a different intention appears the provision of the Special Conditions of Contract shall be deemed to override the provisions of the general conditions of contract and / or the other documents forming part of the contract only to the extent such repugnant/various in the special conditions of contract as are not possible of being reconciled with the provisions in the special conditions of contract as are not possible of being reconciled with the provision with instructions to Bidder or General Conditions of contract and / or the other documents from part of the contract.
- 1.3 Items mentioned in the BOQ may vary or any changes are needed then it should bring to the attention of JSCL.
- 1.4 Working drawings are given by JSCL in tender document; if any deviations found and correction required then it should be brought to JSCL for rectification.
- 1.5 The items which are missing or not defined in the given BOQ in this Tender Document, then the contractor has to submit the items for approval to JSCL.
- 1.6 The contractor has to submit sample of the items defined in BOQ the same to be Approved by JSCL, before use.
- 1.7 It is percentage rate tender/EPC Tender. For DSR items, bidder should quote percentage above or below of PAC.

b) ADDITIONAL CONDITIONS;

- 1.1 Excavated good earth declared surplus or otherwise shall be disposed of at designated locations as per the directions of JSCL, which shall be different from the disposal site for disintegrated rock etc.
- 1.2 For soil required for re-filling, if sufficient space is not available for stacking at site of excavation, the Contractor shall make his own arrangements for transporting and stacking the earth elsewhere and then bring it back for re-filling. Nothing extra shall be paid on this account for to and fro carriage.
- 1.3 Disposal of surplus excavated earth including mud, liquid mud, dismantled RCC, dismantled brick work etc. shall be made only in the dumping yard approved by local authority. It will be the responsibility of the contractor to get the permission for dumping yard from local authority as required. If any royalty /fees is payable to local authority, such royalty / fees shall also be borne by the contractor. Disposal shall be carried out strictly as per the regulations of local authority. However, the above

materials shall not be removed out of owner's premises without prior written authorization of JSCL.

- 1.4 All the Charges required for vetting of the designs done by The Contractor by IIT or any other reputable agency approved by JSCL etc. shall be deemed to have been included in the quoted rates.
- 1.5 The Contractor shall, at his own expense and without extra charges, make provision for all pumping, dewatering, dredging or bailing out water, if necessary, irrespective of the source of water. The water so pumped out shall be discharged as per local byelaws and as approved by the Engineer-in-charge. The Contractor shall also take all necessary precautions in diverting channels and in discharging the drained water as not to cause damage to the works, crops or any other property within/outside the plot. Excavated area for the basement/ foundation trenches shall be kept free from water while all the works below Ground level are in progress. Nothing extra shall be paid on this account in terms of time and cost.
- 1.6 Further contractor shall take all necessary precautions to protect and safe guard the foundation of the adjacent building / Structure / Overhead/Underground utilities. Nothing extra shall be payable on this account.

2. CONSTRUCTION POWER, WATER AND OTHER FACILITIES

- 2.1 JSCL may provide construction power for office purpose only, at one point, on chargeable basis. Client shall not provide power for any other purpose and the Contractor shall be exclusively responsible to make his own arrangements for supply of power for his use including area illumination, construction activities, fabrication, without any extra cost to Client.
- 2.2 JSCL shall provide water for construction purpose at one point, the vicinity of the site of work. Contractor shall make all arrangements for distribution, storage, use and drainage of the same at his own cost.
- 2.3 JSCL shall endeavor to provide land out of available land to the Contractor, for the sole purpose of field office using Contractor's own container (porta cabin). No land shall be provided for accommodation of workers/labour.
- 2.4 The Contractor shall remove all temporary buildings / facilities etc. before leaving the site after completion of works in all respect. In the event that Contractor fails to clear the site within 3 weeks after receiving intimation from JSCL to do so, JSCL shall be free to engage the services of any third party to clear the site at Contractors risk and cost. All expenses incurred on this account shall be recovered from the Contractor.
- 2.5 If JSCL provides water and electricity, the cost for such facility will be borne by the contractor at the prevailing rates of local Government bodies as per actuals.

3. TAXES, DUTIES, ROYALTY, PRICES

3.1 Royalty

- 3.1.1 All royalties etc., as may be required for any Borrow Areas, including right of way etc. to be arranged by Contractor shall be deemed to have been included in the quoted prices.
- 3.1.2 Contractor's quoted rates should include the royalty on different applicable items as per the prevailing State Government rates.

4. UNDERGROUND AND OVERHEAD STRUCTURES

4.1 The Contractor will familiarise himself with and obtain information and details from JSCL in respect of all existing structures, overhead lines, existing pipelines and utilities existing at the job site before commencing work. The Contractor shall execute the work in such a manner that the said structures, utilities, pipelines etc. are not disturbed or damaged, and shall indemnify and keep indemnified JSCL from and against any destruction thereof or damages thereto.

5. ELECTRICAL CONTRACTOR'S LICENSE-DELETED

6. PROJECT REVIEW MEETINGS

- 6.1 The contractor, immediately on award of work shall submit details of his key personnel to be engaged for the work at site. In addition, he shall furnish the Engineer-in-Charge detailed organogram of his staff involved with the work.
- 6.2 The Contractor shall present the programme and status at various review meetings as required.
- 6.3 Weekly Review Meetings: Shall be attended by Local Team headed by Project - in-Charge.

Agenda	a) Weekly programme v/s actual achieved in the past week and programme for next week. b) Remedial Actions and hold up analysis. c) Client query approval.
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6.4 Monthly Review Meetings: Shall be attended by Project-in-Charge and the Management Representative who can take independent decisions

Agenda	<ul style="list-style-type: none"> a) Progress Status/Statistics. b) Completion Outlook. c) Major hold ups / slippages. d) Assistance required. e) Critical issues. f) Client query/approval. g) Anticipated cash flow requirement for next two months
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7. PROJECT OFFICE ACCOMMODATION

- 7.1 The contractor shall provide, erect and maintain at his own cost separate temporary water tight, Puff insulated air-conditioned office accommodation.
- 7.2 The contractor has to relocate the Porta Cabins if required as per the exigencies of the work and as directed by JSCL without any extra cost. After completion of the Project the Contractor shall take away this material and the site shall be cleaned free from all construction debris.

8. RECOMMENDED MAKES OF MATERIALS

- 8.1 A list of recommended makes of materials is as per Tender document
- 8.2 The order of preference amongst the various products/materials shall be as follows:

The products / materials shall be as per the Brand specified in the Tender document

- a. If the Brand is not specified then the products/material shall be ISI marked and the same shall be got approved by the Engineer-in- Charge before execution.
- b. If ISI marked product/material is not available, the same shall be as approved by the Engineer-in-Charge before execution.

8.3 In case of natural products such as Kota stone, Marble, Granite etc.,

- 8.3.1 the stones used shall be of **premium** grade and they shall be homogenous in colour with consistency in pattern, texture, tone, marking and colour. No discolouration, spots, fissures or cracks and pocked surfaces shall be allowed.
- 8.3.2 Where it is difficult to guarantee uniformity in colour and other properties, contractor shall make all efforts to match the colour, shade, texture of the product with the approved sample. If in the opinion of the JSCL there is significant variation in properties, JSCL shall direct the contractor to remove the same from the site immediately and replace with products

matching with the approved sample within reasonable period. The decision of JSCL shall be final and binding.

9. COMPLETION CERTIFICATES/ NOC FROM LOCAL STATUTORY BODIES

- 9.1 Contractor has to arrange at his own cost building/ work completion certificates or NOCs if required to be obtained, from the local statutory bodies of central and state govt. such as Municipal Corporation, electrical, safety, Fire authority, Chief Controller of Explosives (CCOE) etc. Any fees required for obtaining such NOCs shall be paid by JSCL on production of relevant depository challans/ receipts from such Govt. authorities. Initial building approval drawings shall be made available by JSCL
- 9.2 The application on behalf of JSCL for submission to relevant authorities along with copies of required certificates complete in all respects shall be prepared and submitted by the Contractor well ahead of time so that the actual construction / commissioning of the work is not delayed for want of the approval / inspection by concerned authorities.
- 9.3 The inspection of the works by the authorities shall be arranged by the Contractor and necessary co-ordination and liaison work in this respect shall be the responsibility of the Contractor.

10. TOOLS, PLANTS AND MACHINERY

- 10.1 The Contractor shall provide and install at site adequate T&P for construction of the Project Works. The deployment of T&P shall be planned as per work requirement to suit the nature, quantum and speed of the work for lifting/hoisting construction materials/equipment etc.
- 10.2 The T&P shall be maintained in good working condition throughout the progress of work.
- 10.3 All adequate precaution regarding formal upkeep of valid Statutory/Safety credentials of major construction equipment as directed by JSCL, their installation, operation, maintenance, materials etc., shall be taken care of.
- 10.4 The operating staff to be deployed shall be properly qualified and adequately trained and experienced. All safety precautions shall be taken during the project duration, against possible accident. The Contractor shall deploy his representative to effectively enforce the safety rules and regulations in this regard.

11. CONSTRUCTION EQUIPMENT & MECHANISATION OF CONSTRUCTION ACTIVITIES

- 11.1 The above list is only minimal and indicative. The contractor shall deploy all necessary tools and plants as per the requirement of the work.
- 11.2 The Contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and Time Schedule, progressively deploy adequate equipment, and tools & tackles and augment the same as decided by

Engineer-in-Charge depending on the exigencies of the work so as to suit the construction schedule.

12. CENTRING AND SHUTTERING FOR R.C.C WORK:-

12.1 The work is to be completed within 24 months, hence the contractor shall adopt a suitable system complying with BIS standards regarding stripping time, with requisite number of sets of centring and shuttering. The slab cycle for each of the structures has to be designed for completing the construction within the stipulated completion time of the respective building, and the same shall be got approved by JSCL.

13. INTERFERENCE WITH TRAFFIC AND ADJOINING PROPERTIES/ BUILDINGS

13.1 In case any operation connected with the Works requires temporary diversion of the traffic, or obstruction or closure of any road, or any other „right of way“, the approval of JSCL and the respective competent authorities shall be obtained at least one week in advance.

13.2 The Contractor shall at all times during execution of the Works, ensure an uninterrupted flow of traffic around the plot so as not to cause any nuisance to the general public.

13.3 If in order to avoid undue interference with the traffic and adjoining properties, JSCL instructs the Contractor to take special precautions or work within restricted time periods; the Contractor shall carry out the Works during such time and in such manner as directed by JSCL.

14. LIGHTING & WATCH AND WARD:

14.1 The contractor shall at his own cost take all precautions to ensure safety of life and property by providing necessary barriers, area lighting at the construction site and approaches, watchmen, necessary watch towers etc. during progress of work at all hours including night hours, if required, as directed by the Engineer-in-charge.

14.2 The Contractor shall be responsible for the watch and ward of the all construction premises and buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installation till handing over of all the works to JSCL.

15. MONTHLY BILLS OF CONTRACTOR

Contractor shall submit Monthly bills for the work Executed. Minimum amount of such bills shall not be less than 5 % of Contract value.

16. PAYMENT SCHEDULE :

Following payment schedule shall be adopted for EPC Works:

Tentative Payment Break up Schedule			
Sr.no	Item Description	Percentage	Remark
A	Schedule B		
	Supply of Materials		Payment shall be done after completion of each activity
a	Supply & Delivery of Materials at site for Rain Water harvesting system Components	40%	
b	Installation Testing and commissioning of the Rain Water harvesting system Components	30%	
c	Handing Over of the Entire Project	30%	
	TOTAL	100%	
B	All other works of Schedule B		
a	50% payment shall be made on pro-rata basis against executed quantity and certification from Employer	50%	Payment shall be done after completion of each activity
b	50% payment shall be made on Handing Over of the Entire Project	50%	Payment shall be done after completion of each activity
C	Schedule C		
1	Operation & Maintenance		
	For First Year		Yearly Payment against Amount quoted for respective year
	For Second Year		
	For Third Year		
	For Fourth Year		
	For Fifth Year		

Following Payment schedule shall be adopted for operation & maintenance for 5years.

Sr. No.	Bidder to consider Operation & Maintenance cost in their scope	Phase	Unit	Payment (%)
(a)	Operation & Maintenance Cost for 1st year	1	Quarter	25%
		2	Quarter	25%
		3	Quarter	25%
		4	Quarter	25%

(b)	Operation & Maintenance Cost for 2nd year	5	Quarter	25%
		6	Quarter	25%
		7	Quarter	25%
		8	Quarter	25%
(c)	Operation & Maintenance Cost for 3rd year	9	Quarter	25%
		10	Quarter	25%
		11	Quarter	25%
		12	Quarter	25%
(d)	Operation & Maintenance Cost for 4th year	13	Quarter	25%
		14	Quarter	25%
		15	Quarter	25%
		16	Quarter	25%
(e)	Operation & Maintenance Cost for 5th year	17	Quarter	25%
		18	Quarter	25%
		19	Quarter	25%
		20	Quarter	25%

17. TIME PERIOD OF THE PROJECT

Entire project should be completed and delivered within Twenty Four Months of time from the date of award of contract that includes Monsoon.

The time allowed for carrying out the work as entered in the Tender shall be strictly observed by the Contractor and shall be reckoned from the date on which the Letter of Acceptance is given to the Contractor. The work shall throughout the stipulated period of the Contract be proceeded with all due diligence as time being deemed to be the essence of the contract on the part of the Contractor.

The Contractor should complete the physical work as far as possible as per phase given below :

1/4 of the work in	1/4 of the time
1/2 of the work in	1/2 of the time
3/4 of the work in	3/4 of the time
Full of the work in	Full of the time

Full work will be completed in Twenty Four months including Monsoon.

However deviations if any from above phasing will be got duly approved by the engineer incharge.

The program for completion of work shall be a part of the Contract Document in the form of Bar Chart / GANTT Chart. The Contractor is supposed to carry out the work and keep the progress as per Bar Chart/GANTT Chart. The Contractor shall complete the work as per the Schedule given in the Contract and the program submitted by the Contractor.

18. CONTRACT EXECUTION

All required documents for execution of the contract shall be submitted within 30 days from the date of issue of letter of acceptance. If the documents are not submitted within the stipulated time a penalty of Rs 5000/- per day will be applicable to the contractor. All contract documents need to be duly affixed with stamp duty properly signed along with evidence/proof of payment of security/contract deposit/ within 30 days from the date of letter of acceptance received by him

If the amount of the Contract Deposit to be paid above is not paid within 30 days from the date of issue of Letter of Acceptance, the Tender / Contractor already accepted shall be considered as cancelled and legal steps be taken against the contractor for recovery of the amounts.

The amount of Security Deposit retained by the JSCL shall be released after expiry of period up to which the contractor has agreed to maintain the work in good order is over. In the event of the contractor failing or neglecting to complete the rectification work within the period up to which the contractor has agreed to maintain the work in good order, the amount of security deposit retained by JSCL shall be adjusted towards the excess cost incurred by the Department on rectification work.

19. ACTION WHEN WHOLE OF SECURITY DEPOSIT / RETENTION MONEY IS FORFEITED:

In any case in which under any Clause of this contract, the contractor shall have rendered himself liable to pay compensation amounting to the whole of this security deposit whether paid in one sum or deducted by installments or in the case of abandonment of the work owing to serious illness or death of the contractor or any other cause, the Engineer-in-Charge shall have power to adopt any of the following process, as he may deem best suited to the interest of JSCL -

- (a) To rescind the contract (for which recession notice in writing to the contractor shall be conclusive evidence) and in that case, the security deposit of the contract shall stand forfeited and be absolutely at the disposal of JSCL .

- (b) To carry out the work or any part of the work departmentally debiting the contractor with the cost of the work, expenditure incurred on tools and plant, and charges on additional supervisory staff including the cost of work-charged establishment employed for getting the un-executed part of the work completed and crediting him with the value of the work done departmentally in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Engineer-in-Charge as to the costs and other allied expenses so incurred and as to the value of the work so done departmentally shall be final and conclusive against the contractor.
- (c) To order that the work of the contractor be measured up and to take such part thereof as shall be un-executed out of his hands, and to give it to another contractor to complete, in which case all expenses incurred on advertisement for fixing a new contracting agency, additional supervisory staff including the cost of work charged establishment and the cost of the work executed by the new contract agency will be debited to the contractor and the value of the work done or executed through the new contractor shall be credited to the contractor in all respects and in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Executive Engineer as to all the cost of the work and other expenses incurred as aforesaid for or in getting the un-executed work done by the new contractor and as to the value of the work so done shall be final and conclusive against the contractor.

In case the contract shall be rescinded under Clause (a) above, the contractor shall not be entitled to recover or be paid any sum for any work there for actually performed by him under this contract unless and until the Executive Engineer shall have certified in writing the performance of such work and the amount payable to him in respect thereof and he shall only be entitled to be paid the amount so certified. In the event of either of the courses referred to in Clause (b) or (c) being adopted and the cost of the work executed departmentally or through a new contractor and other allied expenses exceeding the value of such work credited to the contractors amount of excess shall be deducted from any money due to the contractor, by JSCL under the contract or otherwise, howsoever, or from his security deposit or the sale proceeds thereof provided, however, the contractor shall have no claim against JSCL even if the certified value of the work done departmentally or through a new contractor exceeds the certified cost of such work and allied expenses, provided always that whichever of the three courses mentioned in clauses (a), (b) or (c) is adopted by the Executive Engineer, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchase or procured any materials or entered in to any engagements or made any advance on account of or with a view to the execution of the work or the performance of the contract.

20. CONTRACT MAY BE RESCINDED AND SECURITY DEPOSIT FORFEITED FOR BRIBING A PUBLIC OFFICER OR IF CONTRACTOR BECOMES INSOLVENT

If the contractor assigns or sublets his contracts or attempt so to do, or become insolvent or commence any proceeding to get himself adjudicated and insolvent or make any composition with his creditors, or attempt so to do or if bribe, gratuity, gift, loan, perquisite, reward or advantage, pecuniary or otherwise, shall either directly or indirectly be given promised or offered by the contractor or any of his servants or agents through any public officer, or person in the employ of JSCL /Govt. in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract the Engineer In-charge may thereupon, by notice in writing rescind the contract and the Security Deposit of the Contractor shall thereupon stand forfeited and be absolutely at the disposal of JSCL and the same consequences shall ensure as if the contract had been rescinded under above clause J hereof; and in addition the contractor shall not be entitled to recover or be paid for any work therefore actually performed.

SECTION-7

SCOPE OF WORK, EMPLOYER'S REQUIREMENT AND TECHNICAL SPECIFICATIONS

1.1 SCOPE of work

- I. Jabalpur Smart City Ltd (JSCL) has proposed implementation of advanced Rain water harvesting (RWH) system in Jabalpur city under the smart city mission.

The scope of this enquiry covers the following

- Review and assess the suitability of Advanced groundwater recharge structures in the project area and as approved by Engineer in charge.
- Carrying out necessary hydro-geological investigations for deciding the type of rainwater harvesting structure and its potential.
- Construction of Rainwater harvesting system with advanced technology (Cross polymer or any other equivalent) with proper inflow, filtering & outflow arrangements including de-silting chamber and allied Civil Works for the same.

- Study of existing and proposed storm water drainage system for the smooth execution & proper integration of SWD (Storm water Drainage) with the proposed RWH system.

With reference to the same, suitable locations in the ABD / Pan City area have been identified for the work. The scope starts from the collection of water released by down take pipes of buildings / Storm water drains near buildings and routing the same to the recharge structure & excess water has to be discharged to the nearest Storm water drains/water body as applicable.

- II. The Contractor's scope of work shall cover furnishing all materials, equipment, plant, labour, transport, tools and all other services necessary for the complete execution of works, including all surveying and setting out necessary for the works and cleanup of working areas after completion of the works with all safety precautions & Environmental protections.
- III. The WORK includes but is not limited to the execution of the advanced Rainwater Harvesting system -
 - Carrying out hydro-geological investigations to decide the number of location of the recharge structure & recharge potential of the structure.(As per Clause 1.1 XV- XXI)
 - Site cleaning
 - Excavation for the Ground water recharge structure,
 - Drilling of borehole, casing(if required),
 - Diversion of storm water drain and necessary civil works for the same
 - Completion of work and handing over to JSCL
 - Operation and maintenance as specified by JSCL
- IV. The WORK includes excavation, drilling, filling, other necessary construction works for the structure mentioned above and all other items of work though not specifically stated, but required for the satisfactory completion of works.
- V. The WORK includes but is not limited to the construction of the above noted structures and requisite infrastructure facilities.
- VI. Contractor shall be entirely responsible for coordinating all activities with the other contractors / vendors of the project, which shall include adherence to overall work schedule, correlating and accommodating interdependent activities between other works and Civil works, ensuring successful

- completion of works and satisfactory operation of systems etc.
- VII. During the Defect Liability Period, Contractor shall inspect all the works carried out by him in every three months interval or as instructed by the JSCL. During inspection, Contractor shall prepare and maintain the records of the defects, if any. These records shall get certified from JSCL.
- VIII. Contractor has to provide following preliminaries during the execution of the works at no extra cost.
- Construction water and construction power arrangement as mentioned in Contract Summary.
 - Contractor has to obtain the written approval from JSCL before commencement of work.
 - Before start of work, Contractor to submit at least 8 days in advance the detail “Execution Methodology” and micro schedule and get the same approved from JSCL.
 - Contractor should complete the work within the time schedule as specified by the JSCL. All changes should be discussed with JSCL before taking up the work.
 - Taking and furnishing, necessary colour photographs before start, during construction and after completion of each of the activities and whenever required as deemed necessary and submitting coloured photographic work progress report along with RA bill.
 - The Contractor shall make necessary access roads to working areas and maintain the same, if such access road does not exist, at his own cost (Rate quoted shall be inclusive of all such preliminary works).
- IX. Contractor should execute the above scope of work as per Construction safety standard and as per JSCL guidelines. In case of conflict in these documents, the stringent shall govern.
- X. It is not the intent to specify completely herein all details of design and construction. However, the work executed shall conform in all respect to high standards of engineering design and workmanship and be capable of performing in continuous commercial operation in a manner acceptable to JSCL who will interpret the meaning of drawings and specifications and shall have the power to reject any work or materials which in his judgment are not in full accord therewith.
- XI. All the work carried out by the contractor and methodology adopted by him shall be fully in harmony with the clean environment and any operation in general shall not be detrimental to the safety and peace of the surroundings.
- XII. The Contractor is required to quote item rates for the items listed in Price bid of this tender. If so desired, Contractor is advised to visit the site, ascertain the levels and the strata by carrying out the survey and investigation at his own cost before submitting the bid. Submission of Tender document means it is deemed to Contractor has visited the site and has understood the

requirements. Contractor is advised to ascertain the site conditions and the strata by carrying out the survey and investigation at his own cost before submitting the bid.

XIII. The Contractor shall carry out the necessary hydro-geological investigations in consultation with PMC, and JSCL at his own cost to ascertain the subsurface profile and hydrogeology to decide the depth of recharge well. Reference benchmark within plot will be indicated to the Contractor for carrying out the above work, the cost of necessary surveys mentioned above is deemed to be included for the price quoted in Price Bid.

XIV. Operation And Maintenance Of Recharge Structure

- De-silting & Filtering arrangements: Recharge units are susceptible for clogging due to sediment deposits hence, the total or direct entry of runoff shall be avoided. De-silting chamber & Filtering unit arrangement shall be cleaned before the start of monsoon.
- Conveyance arrangement till the recharge structures (Inlet & outlet Pipes/drains) shall be periodically examined & necessary replacements & repairs for the damaged portion shall be carried out.
- Geo synthetic filter fabric wrapped around recharge structure units shall be examined at least once in 5 years for if there any wear and tear in the fabric/recharge unit & replacement of the same shall be made if any.
- Bypass arrangement to be proposed to divert the initial rain as it contains heavy silt and other wastes.
- Ideally the construction of the recharge unit shall be placed after the site has been stabilized.
- The inspection shall be carried after every major storm to ensure proper stabilization.
- The recharge well shall be inspected for the accumulated sediments, leaves or debris.
- The Contractor shall install proper sign boards for pre and post constructions.

XV. Scope of Hydro Geological Investigation to be carried out by Contractor.

- To obtain, study and synthesize background information including the geology, hydrogeology and existing borehole data, for the purpose of improving the quality of assessment and preparing comprehensive hydro geological report,
- To carry out hydro-geological evaluation and geophysical investigations in the selected areas in Plot to determine groundwater recharge potential and appropriateness of drilling boreholes at the sites.
- To prepare hydro-geological survey reports in conformity with the provisions of the relevant standards including the following:
 - ❖ Site Name, Location and GPS readings
 - ❖ Geology and hydrogeology
 - ❖ Existing borehole data information.
 - ❖ Geophysical data and analysis

- ❖ Conclusions and recommendations, including the groundwater potential of the investigated sites within plot, name and location of the site recommended for drilling, recommended maximum drilling depth in meters and appropriate drilling method, optimum spacing for deep bore holes for the deep recharge up to aquifer considering the existing plot plan.
- XVI. Hydro geological Study
- Collection of hydro-geological information from field, to establish a water balance for the proposed study area (To study topography, lithology, soil, climate, drainage system, proximity to water bodies, recharge capacity of the plot area in mm/day and in cum/sqm/m depth, inventory of existing borewells, ground water resource status).based on the available reports
 - Field investigations to establish existing scenario of ground water storage in the site area.
 - Assessing the groundwater resource in the study area.
 - Conducting the pumping test for the estimation of aquifer parameter
 - Hydro geological characteristics to include
 - ❖ Aquifer transmissivity
 - ❖ Borehole specific capacities
 - ❖ Storage coefficient and specific yield
 - ❖ Hydraulic conductivity
 - ❖ Groundwater flux
 - Estimation of depth of deep recharge shaft for the plot /area and the recharge capacity and recharge rate in mm/day and also cum/sqm/m depth in saturated condition
 - Identification of potential deep recharge locations in the plot/area if deep recharge is resorted to.
 - All the above works should be carried out in accordance to the guidelines laid in IS 15755.
- XVII. Rainwater Harvesting
- Study the scope to augment water resources through rainwater harvesting in the study area as per the requirements stated in the scope above.
 - Selection of sites for the detailed design of suitable rainwater harvesting structures including roof top rainwater harvesting structures in the study area for deep/shallow groundwater recharge.
 - Conducting actual deep water percolation test with the help of water made available by client and recording the observations in presence of engineer in charge to check the effectiveness of the deep recharge before implementation of scheme.
- XVIII. Geophysical Survey
- It is proposed to carry out electrical resistivity survey by conducting Vertical electrical soundings (VES) upto a depth of 150 mts. By integrating hydro-

geological and geo- physical data ground water potential zones shall be demarcated and points for drilling bore wells shall be located. Details such as total number of feasible points with order of preference for drilling, depth to be drilled, expected casing depth, approximate yield and probable source depths shall be provided.

- Proposed RWH structure locations – Appended with the table in Clause 1.2.
- XIX. Posting Of Experienced Hydro-geologist/Engineer And Specialist
 - The CONTRACTOR shall station an experienced hydro geologist/Engineer at Site throughout the duration of the work. This Engineer shall be in charge of the entire fieldwork and shall be responsible to the OWNER/ENGINEER in regard to all day-to- day matters of fieldwork. The BIDDER shall submit a bio data of this Engineer along with an undertaking that the entire work will be in direct charge of this Engineer only.
 - The BIDDER shall submit an undertaking with his Bid that only he shall employ the Engineer(s) and Specialist(s) indicated by him in his bid for these investigations, subject to the approval of the OWNER/ ENGINEER. Non-compliance with this condition will render the bid invalid.
- XX. General
 - The CONTRACTOR shall draw the attention of the ENGINEER, if in the opinion of the CONTRACTOR, any unique or peculiar feature is observed during the course of the investigation.
 - Modification in requirements may be made during the course of the investigations after review of field observations and test results or if there are any changes in requirements.
- XXI. Reporting Requirements

Following points to be covered in the Hydro geological Investigations Report

 - Name and details of the project in brief
 - Location and description of proposed Activity
 - Details of climate in brief
 - Details of hydrogeology
 - Details of neighboring boreholes, including location, distance from proposed borehole or boreholes, number and construction details, age, current status and use, current abstraction and use.
 - Description and details (including raw and processed data) of prospecting methods adopted, e.g. remote sensing, geophysics, geological and or Hydro-geological cross sections. Hydro-geological characteristics and analysis, to include but not necessarily be limited to, the following:
 - ❖ Aquifer transmissivity
 - ❖ Borehole specific capacities
 - ❖ Storage coefficient and or specific yield
 - ❖ Hydraulic conductivity
 - ❖ Groundwater flux
 - ❖ Estimated mean annual recharge, and sensitivity to external factors

- Analysis of the reserve
- Impact of proposed activity on aquifer, water quality, other abstractors, including likelihood of coalescing cones of depression and implications for other groundwater users in any potentially impacted areas.
- Recommendations for borehole development, to include but not limited to, the following:
 - ❖ Locations of recommended borehole(s) expressed as a coordinate(s) and indicated on a plot plan
 - ❖ Recommendations regarding borehole or well density and minimum spacing in the project area
 - ❖ Recommended depth and maximum diameter
- Any other relevant information (e.g. need to monitor neighboring boreholes during tests).
- This report is written so as to cover each of the above, in so far as data limitations allow. The report also includes maps, diagrams, tables and appendices as appropriate.
- Soft copy as draft report shall be submitted and after approval of the same final report shall be submitted.
- Final Report shall be submitted in 3 set of Hard Copies and two set of soft copy in CD.

1.2 PROJECT AREA

The Rain water harvesting structures under smart city mission is proposed at priority plots under ABD area/ Pan City Area & outside ABD area.

The size & location of recharge structure may change after the detailed Hydro geological investigations keeping the quantity intact.

1.3 DESIGN CRITERIA

- Total area of the plot including the roof top area of the building with different Coefficient of runoff .
- outlets to be Established from plot
- Initial roof water to be By-Passed or prevented to enter into the system.
- The total capacity of RWHS: It should recharge or detain the excess Q due to development i.e. $Q_{after} - Q_{before}$. Hence the two basic parameters of permeability of soil and depth of aquifer at site will be determined by Hydro Geological investigation. For the study, data can be obtained from existing hydro-geological report with the local ground water body if available.
- Every RWH unit should have a controlled out flow for discharging maximum up to Q_{before} flow to the earlier outfall to road side drain. i.e. the controlled out flow must start discharging from the beginning of the storm and must be limited to maximum Q_{before} (this is similar to mass curve for finding reservoir storage).
- Q_{before} or Q_{after} of the plot must be calculated for appropriate ARI / Return Period and it shall be based on critical time of concentration for reaching to inlet of RWHS.

- Must calculate O&M of RWHS duly indicating repercussions if not properly maintained. The following advantages can be claimed with the above approach:
 - ❖ Due to management of excess flow $Q_{after} - Q_{before}$ within the site, the ground water table is going to improve and helps in addressing water scarcity.
 - ❖ As only Q_{before} is allowed to drain network, it helps in reducing the sizes of network by carrying only upto 50% of the flow as per existing calculations for Q_{after} flows.
 - ❖ Helps in controlling of downstream floods.
 - ❖ Helps in maintaining the same water environment at local & overall drainage network's catchment even after development. Finally can conclude that this approach leads to better environment than that of Q_{before} .
 - ❖ It is an overall sustainable approach for any Integrated Water Management System.
- Recharge pits with boreholes are constructed to augment recharge into phreatic aquifers where water levels are much deeper and the aquifer zones are overlain by strata having low permeability.

1.4 LIST OF RECOMMENDED MAKES

All the required components to be supplied under this contract have to be of reputed makes. The equipment of those manufacturers, who have sufficient proven experience of manufacturing the respective equipment of similar requirement, shall be considered. The respective equipment should have been manufactured, supplied, installed, commissioned successfully and should be running satisfactorily since at least last 5 years continuously. Certificates from end users, regarding their satisfactory Performances, shall have to be submitted in this regard.

Following is the list of recommended makes:

Sr. No.	Material/ Equipment	Vendor/Make
1.	Non woven Geotextile	Tailor Bird, Suvi ,SGB or equivalent
2.	CGWB/GRIHA approved Pure Rain Filter	Pure Rain ,Triveni ,SGB or equivalent
3.	Co-polymer cross wave of size 494 mm x 494 mm x220mm for rainwater harvesting structure	Sekisui, Polypipe, Rehaya or equivalent
4.	U-PVC Pipe	Supreme, Apolo , finolex or equivalent
5.	FRP Chambers	Pure Rain ,Triveni ,SGB or equivalent

1.5 PERFORMANCE CRITERIA

- GENERAL

- The contractor shall carry out the work in accordance with the Detailed Design and Good for Construction drawings to be prepared by the Contractor.
- Preliminary Drawings, Specifications, data sheets and other documents forming part of the Contract.
- The contractor shall be fully responsible for the performance of the selected equipment (installed by him) at the specified parameters and for the efficiency of the installation to deliver the required end result.
- The contractor shall guarantee that the system as installed shall perform to complete satisfaction and requirements of the owner.
- The contractor shall also guarantee that the performance of various equipments individually and integrated shall not be less than the quoted capacity; also actual power consumption shall not exceed the quoted rating, during testing and commissioning, handing over and guarantee period.
- Rating of all items shall be appropriate for the conditions on the particular site on which the item will be used. All the equipment shall be fit for continuous work under the most severe weather conditions of site.
- At the close of the work and before issue of final certificate of virtual completion, the contractor shall furnish written performance guarantee against defective materials and workman-ship for a period of five years from date of testing, commissioning and handing over.
- The Contractor shall hold himself fully responsible for reinstallation or replacement free of cost to Owner the following:
 - ❖ Any defective work or material supplied by the Contractor.
 - ❖ Any material or equipment damaged or destroyed as a result of defective workmanship by the Contractor.

- **MANUFACTURERS**

- All the equipments to be supplied under this contract have to be of reputed makes. The equipment of those manufacturers, who have sufficient proven experience of manufacturing the respective equipment of similar capacity, shall be considered. The respective equipment should have been manufactured, supplied, installed, commissioned successfully and should be running satisfactorily since at least last 5 years continuously. Certificates from end users, regarding their satisfactory Performances, shall have to be submitted in this regard.
- Where manufacturers have furnished specific instructions relating to the materials used in this job, covering points not specifically mentioned in these documents, these instructions shall be followed in all cases.
- Where manufacturer's names and/or catalogue numbers are given, this is an indication of the quality, standards and performance required.
- For items not covered under the List of Approved Makes', contractor shall offer items of first class quality, standards and performance and obtain the approval of Construction Manager/Consultants before procuring them.

- Where interfacing occurs, all equipments shall be mutually compatible in all respects.

1.6 TECHNICAL SPECIFICATIONS:

Setting out of Works, Obligatory Requirements and Specifications:

Technical Specifications mentioned below are the minimum required specifications and bidder can offer the product meeting the minimum specifications or exceed the specifications. Bidder is required to provide the offered model and make along with technical compliance and manufacturer Datasheets.

I. SITE WORK

- Intimation about commencement of work:

Before commencing the works and also during progress the bidder shall give due notice to the concerned authorities, the Municipality, the Roads and Buildings and Electricity Board, Telephone Department, the Traffic Department attached to the Police, other Departments and companies as may be required to the effect that the work is being taken up in a particular locality and that necessary diversion of traffic may be arranged for. The bidder shall cooperate with the Departments concerned and provide for necessary barricading of roads, protections to existing underground mains, cables etc.

- Cross Drainage:

The bidder shall handle all flows from natural drainage channels intercepted by the work under these specifications, perform any additional excavation and grading for drainage as directed and maintain any temporary construction required to bypass or otherwise cause the flows to be harmless to the work and property. When the temporary construction is no longer needed and prior to acceptance of the work, the bidder shall remove the temporary construction and restore the site to its original condition as approved by the Engineer-in-Charge. The cost of all work and materials required by this paragraph shall be included by the bidder in the unit prices quoted in bill of quantities and no separate payment will be made for the same.

- Stacking of Excavated Material:

Where the location of the work is such and does not permit the deposition of excavated earth while digging trenches for laying pipes, the excavated earth should be conveyed to a convenient place and deposited there temporarily, as directed by the Engineer-in-Charge. Such deposited earth shall be re-conveyed to the site of work for the purpose of refilling of trenches, if such deposited soil is suitable for refilling. The unit rate for trench work of excavation and refilling shall include the cost of such operations.

- Disposal of Surplus Earth:

The rate for excavation of trench work, shall include charges of shoring, strutting, any of these contingent works. While bailing out water care should be taken to see that the bailed out water is properly channelized to flow away without stagnation or inundating the adjoining road surfaces and properties.

- Shoring, Strutting and Bailing out Water :

The rate for excavation of trench work shall include charges of shoring, strutting, bailing out water wherever necessary and no extra payment will be made for any of these contingent works. While bailing out water care should be taken to see that the bailed out water is properly

channelized to flow away without stagnation or inundating the adjoining road surfaces and properties.

II. EXCAVATION WORK

Excavation for recharge structure and trench for pipes up to required depth in all kinds of strata with sorting out and stacking of useful materials and disposing off the excavated stuff up to 50-100 Meter lead as instructed by Engineer in charge including all safety precautions etc complete. This also includes shoring, strutting, bailing or pumping out water from trenches, pits whenever necessary of required length, width and depth including extra excavations for sockets and all safety measures and provisions such as site rails fencing, lighting, watching including refilling the trenches in layers including ramming and removing& disposing off the excavated stuff to the specified lead, clearing the site etc. as stipulated in the tender specification complete before starting work and after completion of work for all lifts and soil strata as specified.

- In all sorts of soil, soft murrum, hard murrum, boulders, macadam and asphalt roads including breaking of lime and cement masonry and lime concrete.
- In soft rock, cement concrete, hard rock, and cutting of cement concrete and R.C.C. of any proportion, etc. with controlled blasting and or chiseling whichever is necessary and feasible as required by site conditions.
- In hard rock,
 - **Scope**

This specification covers the general requirements of earthwork in excavation in different materials, site grading, filling in areas as shown in drawing, filling back around foundations, surrounding recharge pits & pipe/drain trenches tranches and conveyance and disposal of surplus soils or stacking them properly as directed by the Engineer in charge and all operations covered within the intent and purpose of this specification.

- Applicable Codes

For Indian Standard Codes, please refer Clause 1.12. In all cases, the latest revision of the codes shall be referred to.

- Survey & Investigations

The Contractor shall have to be carry out the relevant survey & investigations of the site, require to execute the installation of Rainwater harvesting structure and its allied works before excavation and set properly all lines and establish levels for various works such as earthwork in excavation for grading, basement, foundations, plinth filling, roads, drains, trenches, pipelines, pits etc. Such survey shall be carried out by taking accurate cross sections of the area perpendicular to established reference/ grid lines at 8 m intervals or nearer as determined by the based on ground profile or with the proper instruction of Engineer in charge.

- General

- The Contractor shall furnish all tools, plants, instruments, qualified supervisory personnel, labour, materials for any temporary works, consumables, any and everything necessary, whether or not such items are specifically stated herein for completion of the job in accordance with the specification requirements.
- The excavation shall be done to correct lines and levels. This shall also include, where required, proper shoring to maintain excavations and also the furnishing,

erecting and maintaining of substantial barricades around excavated areas and warning lamps at night for ensuring safety.

- The rates quoted shall also include for dumping of excavated materials(Rock/ soil excavated) in regular heaps, bunds, riprap with regular slopes and levelling the same so as to provide natural drainage, with all leads and lifts as directed by the Engineer in charge.

- **Clearing**

- The area to be excavated filled shall be cleared of fences, trees, plants, logs, stumps, bush, vegetation, rubbish, slush, etc. and other objectionable matter. If any roots or stumps of trees are met during excavation, they shall also be removed. The material so removed shall be burnt or disposed off as directed by the Engineer in charge. Where earth fill is intended, the area shall be stripped of all loose/ soft patches, top soil containing objectionable matter/ materials before fill commences.
- The products of the clearings to be stacked in such a place and in such a manner, as directed by the Engineer in charge
- In site clearing, all trees not specially marked for preservation, bamboos, jungle wood and brush wood shall be cut down and their roots grubbed up. All wood and materials from the clearing shall be the property of corporation and shall be arranged as directed by the Engineer in charge-in-charge or his authorized agent. The materials found to be useful by the Engineer in charge shall be conveyed and properly stacked as directed within the specified limit.
- All holes or hollows, whether originally existing or produced by digging up roots, shall be carefully filled up with earth, well rammed and leveled off, as may be directed shall not be paid for. The contractor shall get approval of design of shoring. The shoring shall be of sufficient strength to resist side pressure and ensure safety from slips and blows and to prevent damage to work and property and injury to persons. It shall be removed as directed after all the items of work for which it is required are completed.
- Protection: The foundation pits and trenches, etc shall be strongly fenced and red light Signals shall be kept at night in charge of watch-man to prevent accidents. Sufficient care and protective measure shall be taken to see that the excavation shall not affect or damage the adjoining structures. The contractor shall be entirely responsible for any injury to life and damage to the properties etc. Necessary protection work such as guide ropes, crossing places, barricades, the contractor at his own cost shall provide caution boards etc.

- **Precious Objects, Relics, Objects of Antiquity, Etc.**

All gold, silver, oil, minerals, archaeological and other findings of importance, trees cut or other materials of any description and all precious stones, coins, treasures, relics, antiquities and other similar things which may be found in or upon the site shall be the property of the Owner and the Contractor shall duly preserve the same to the satisfaction of the Owner and from time to time deliver the same to such person or persons as the Owner may from time to time authorise or appoint to receive the same.

- **Classification**

All materials to be excavated shall be classified by the Engineer in charge, as per relevant codes and standards shall be paid for at the rate tendered for that particular class of material. No distinction shall be made whether the material is dry, moist or wet. The decision of the Engineer in charge regarding the classification of the material shall be final and binding on the contractor and not be a subject matter of any appeal or arbitration.

- **Basic Criteria**

- All excavation work shall be carried out by mechanical equipment unless, in the opinion of the Engineer in charge, the work involved and time schedule permit manual work. Excavation for permanent work shall be taken out to such widths, lengths, depths and profiles as are shown on the drawings or such other lines and grades as may be specified by the Engineer in charge. Rough excavation shall be carried out to a depth 150 mm above the final level. The balance shall be excavated with special care. Soft pockets shall be removed even below the final level and extra excavation filled up as directed by the Engineer in charge. The final excavation if so instructed by the Engineer in charge should be carried out just prior to laying the mud-mat. The Contractor may, for facility of work or similar other reasons can excavate, and also backfill later, if so approved by the Engineer in charge, at his own cost outside the lines shown on the drawings or directed by the Engineer in charge. Should any excavation be taken below the specified elevations, the Contractor shall fill it up, with concrete of the same class as in the foundation resting thereon, up to the required elevation. No extra shall be claimed by the Contractor on this account.
- All excavation shall be done to the minimum dimensions as required for safety and working facility. Prior approval of the Engineer in charge shall be obtained by the Contractor in each individual case, for the method he proposes to adopt for the excavation, including dimensions, side slopes, dewatering, disposal, etc. This approval, however, shall not in any way relieve the Contractor of his responsibility for any consequent loss or damage. The excavation must be carried out in the most expeditious and efficient manner. Side slopes shall be as steep as will stand safely for the actual soil conditions encountered. Every precaution shall be taken to prevent slips. Should slips occur, the slipped material shall be removed and the slope dressed to a modified stable slope. Removal of the slipped earth will not be paid for and Contractor shall take adequate precautions to avoid slips in view of the restricted plot and presence of buildings/ structures in nearby vicinity.
- Excavation shall be carried out with such tools, tackles and equipment as described herein before. Blasting or other methods may be resorted to in the case of hard rock; however not without the specific permission of the Engineer in charge.

- **Dewatering :**

- Unless specially provided for as a separate item in the contract, the rate of excavation would include bailing or pumping out all water met with in excavation or which may accumulate in the excavation during the progress of the work either, by percolation, seepage, springs, rain or any other cause and diverting surface flow

if any, by earthen bunds or by other means. The bunds shall be removed as soon as the work is completed.

- Unless specially provided as a separate item of contract, pumping of water from foundation pit, trenches etc shall be carried out by the contractor at his own cost and he shall arrange for required numbers of dewatering pumping sets for the above work. He shall take precaution to prevent any damage to the foundation trenches, concrete or masonry or any adjacent structure. The excavation shall be kept free from water by the contractor (1) during inspection and measurement (2) When concrete and/or masonry work are in progress and till the construction work reaches above the natural water level and (3) till the Engineer in charge considers that the mortar is sufficiently set. The rate shall be paid for cum. of excavation.

- **Stripping Loose Rock**

- All loose boulders, semi-detached rocks (along with earthy stuff which might move therewith) not directly in the excavation but so close to the area to be excavated as to be liable, in the opinion of the Engineer in charge, to fall or otherwise endanger the workmen, equipment, or the work, etc., shall be stripped off and removed away from the area of the excavation. The method used shall be such as not to shatter or render unstable or unsafe the portion, which was originally sound and safe.
- Any material not requiring removal as contemplated in the work, but which, in the opinion of the Engineer in charge, is likely to become loose or unstable later, shall also be promptly and satisfactorily removed as directed. The cost of such stripping will be paid for at the unit rates accepted for the class of materials in question.

- **Excavation in Rock : Blasting with Gun Power:**

- Blasting operations shall be carried out with the prior permission and in the presence of the Engineer in charge or his authorized representative and during fixed time hours of

the day. All safety precautions such as providing safety nylon netting etc. shall be carried out as per instructions of the Engineer in charge.

- Red danger flags shall be prominently displayed and all the people, except those who have actually to light the fuse must be away to a safe distance, not less than 200 meters.
- All fuses shall be cut to the length required before being inserted into the holes.
- The number of charges to be fired and the actual number of shots heard shall be compared and the person responsible must satisfy himself by examination that all the charges have exploded before work people are permitted to approach the scene. The withdrawal of a charge which has not exploded shall under no circumstances be permitted, but the tamping and charge shall be flooded with water and the hole marked in a distinguishing manner. The next hole to be fired shall be at a distance of about 500mm from the old hole and fired in the usual way.
- The contractor or any of his competent authorized person shall be in charge of the blasting operations and shall be held responsible for strictly observing the safety rules, particularly applicable to blasting operations, in addition to other safety rules.
- In blasting rocks with dynamite, the following general principles shall be observed.

- In general, the following diameter of drills shall be used for different depth of boreholes:
 - ❖ From 1 – 2 metre : 25 mm diameter
 - ❖ From 2 – 3 metres : 37 – 50 mm diameter
 - ❖ From 3 – 4.75 metres : 50 – 60 mm diameter
- The borehole should generally be not more than 1.3m deep and the distance apart should be from one and half to twice the depth. Cracks and fissures in the rock to be blasted shall be carefully studied to ascertain the best portion for the boreholes. Charge shall always be placed in a round piece of rock, if possible not nearer than 30mm from the crack.

Rules for blasting with dynamite and other high explosives

- The person - in- charge must show that he is thoroughly acquainted with all blasting operations and that he understands the rules herewith laid down. He will be held responsible for any accident that may occur.
- Boreholes must be of such sizes that the cartridge can easily pass down them. The position of all holes to be drilled must be marked out with white paint and the person – in – charge must take particular note of these positions.
- The drilling operation being finished, the person – in – charge must make a second inspection and satisfy himself that the boreholes marked out by him have been drilled. The person – in – charge must prepare all charges necessary for boreholes.
- Only ten holes may be loaded and fixed at one time and the charges should be fixed simultaneously as far as practicable. Boreholes must be thoroughly cleared before a cartridge is inserted.
- The loading is to be done by the person – in – charge himself and the position of the charge holes carefully noted by him. Wooden tamping rods only to be used in charging holes (not pointed but cylindrical throughout, one cartridge at a time must be inserted and gently pressed with the tamping rod.
- Immediately before firing blast, due warning must be given and the person – in – charge must see that all the labourers have retired to safety.
- The safety fuse of the charged holes are to be lighted in the presence of the person – in – charge, who must see that the fuses of the holes charged have properly ignited. After the blast, the person – in – charge must carefully inspect the work and satisfy himself that all the charges have exploded.

Misfires:

- Misfires are a source of great danger, if it is suspected that part of the blast failed to fire or is delayed; allow sufficient time to elapse before entering the danger zone. When fuse and blasting caps are used, a safe time, at least of an hour should be allowed.

- None of the drillers are to work near this hole until the two following separations have been done by the person – in – charge.
- (a)The person – in – charge should very carefully extract the tamping with a wooden scrapper and withdraw the fuse with the primer and detonator attached, after which a fresh primer and detonator with fuse should be placed in this hole and fired or.
- The hole may be cleared of 300mm of tamping and the direction then ascertained by placing a stick in the hole. Another hole may then be drilled 150mm away and parallel to it, the hole to be then charged and fired. The person – in – charge shall also at once report to the Engineer in charge – in charge all cases of misfire, that cause of the same and what steps have been taken in connection herewith.

Precautions against misfire:

- The safety fuse should be cut in an oblique direction with a knife.
- All saw dust must be cleared from the inside of the detonator this can be done by blowing down the detonator and tapping the open end. No instrument shall be inserted into the detonator for this purpose.
- After inserting the fuse in the detonator, it shall be fixed by means of nippers.
- If there is water present, or if the boreholes be damp, the junction of the fuse and detonator must be made water tight by means of grease, white or lead.
- The detonator should be inserted into the cartridge, so that about one third of the copper tube is left exposed outside the explosives. The safety fuse outside the detonator should be necessarily tied in position in the cartridge. Water proof fuse only to be used in the damp boreholes, or when water is present in the bore-holes.
- If a misfire has been found to be due to defective fuse detonator or dynamite, the whole quantity or box from which the defective article was used shall be rejected.
- Storage of materials for blasting shall be as per regulations/stipulations of the concerned authorities.
- It shall be the contractor’s responsibilities to arrange proper storage of explosives and obtain required permission from concerned authorities. No separate payment will be made for the above.
- The refilling will generally refer to refilling of trenches up to ground level with excavated stuff.
- Filling materials shall be from excavated stuff.
- Excavated stuff to be used shall be cleared of all rubbish, large size stones, brick bats etc. Big clods shall be broken down to a size of 50 mm or less.

III. REFILLING, BACK FILLING & SITE GRARDING

- Scope

- This specification covers the general requirements of filling in foundation, trenches, pits and plinth with murrum or selected soil in layers of specified thickness & depth including watering, ramming and consolidating etc. as directed by the Engineer in charge and all operations covered within the intent and purpose of this specification.

- Applicable Codes

- For Indian Standard Codes, please refer Clause 1.12. In all cases, the latest revision of the codes shall be referred to.

- **General**

- All fill material will be subject to the Engineer's approval. If any material is rejected by the Engineer, the Contractor shall remove the same forthwith from the site at no extra cost to the Owner. Surplus fill material shall be deposited/ disposed off as directed by the Engineer in charge after the fill work is completed.
- No earth fill shall commence until surface water discharges and streams have been properly intercepted or otherwise dealt with as directed by the Engineer in charge.

- **Filling Material**

- To the extent available, selected surplus soils from excavated materials shall be used as backfill. Fill material shall be free from clods, salts, sulphates, organic or other foreign material. All clods of earth shall be broken or removed. Where excavated material is mostly rock, the boulders shall be broken into pieces not larger than 150 mm size, mixed with properly graded fine material consisting of murum or earth to fill up the voids and the mixture used for filling.
- If any selected fill material is required to be borrowed, the Contractor shall make arrangements for bringing such material from outside borrow pits. The material and source shall be subject to prior approval of the Engineer. The approved borrow pit area shall be cleared of all bushes, roots of trees, plants, rubbish, etc. top soil containing salts/ sulphate and other foreign material shall be removed. The materials so removed shall be burnt or disposed off as directed by the Engineer. The Contractor shall make necessary access roads to borrow areas and maintain the same, if such access road does not exist, at his cost.
- Filling with excavated earth shall be done in regular horizontal layers each not exceeding 20 cm in depth. All lumps and clods exceeding 8 cm in any direction shall be broken. Each layer shall be watered and consolidated with steel rammer or half (½) tonne roller. Where specified, every third and top most layer shall also be consolidated with power roller of minimum 8 tonnes. Wherever depth of filling exceeds 1.5 metres, vibratory power roller shall be used to consolidate the filing unless otherwise directed by Engineer. The Contractor shall make good all subsidence and shrinkage in earth fillings, embankments, traverses, etc. during execution and till the completion of work unless otherwise specified.

- **Filling In Pits and Trenches around Foundations of Structures, Walls**

- As soon as the work in foundations has been accepted and measured, the spaces around the foundations, structures, pits, trenches, etc. shall be cleared of all debris, and filled with earth in layers not exceeding 15 cm., each layer being watered, rammed and properly consolidated, before the succeeding one is laid. Each layer shall be consolidated to the satisfaction of the Engineer. Earth shall be rammed with approved mechanical compaction machines. Usually no manual compaction shall be allowed unless the Engineer is satisfied that in some cases manual compaction by

tampers cannot be avoided. The final backfill surface shall be trimmed and levelled to proper profile as directed by the Engineer or indicated on the drawings.

- **Filling in Trenches**

- Filling in trenches for pipes and drains shall be commenced as soon as the joints of pipes and drains have been tested and passed. The backfilling material shall be properly consolidated by watering and ramming, taking due care that no damage is caused to the pipes.
- Where the trenches are excavated in soil, the filling from the bottom of the trench to the level of the centre line of the pipe shall be done by hand compaction with selected approved earth in layers not exceeding 8 cm, backfilling above the level of the centre line of the pipe shall be done with selected earth by hand compaction or other approved means in layers not exceeding 15 cm.
- In case of excavation of trenches in rock, the filling upto a level 30 cm above the top of the pipe shall be done with fine materials, such as earth, murrum etc. The filling up of the level of the centre line of the pipe shall be done by hand compaction in layers not exceeding 8 cm whereas the filling above the centre line of the pipe shall be done by hand compaction or approved means in layers not exceeding 15 cm. The filling from a level 30 cm above the top of the pipe to the top of the trench shall be done by hand or other approved mechanical methods with broken rock filling of size not exceeding 15 cm mixed with fine material as available to fill up the voids.
- Filling of the trenches shall be carried simultaneously on both sides of the pipe to avoid unequal pressure on the pipe.

- **General Site grading**

- Site grading shall be carried out as indicated in the drawings and as directed by the Engineer in charge. Excavation shall be carried out as specified in the specification.

Filling and compaction shall be carried out as Indian standard codal provision.IS:2720

- If no compaction is called for, the fill may be deposited to the full height in one operation and levelled. If the fill has to be compacted, it shall be placed in layers not exceeding 225 mm and levelled uniformly and compacted before the next layer is deposited.
- To ensure that the fill has been compacted as specified, field and laboratory tests shall be carried out by the contractor at his cost. Field compaction test shall be carried out at different stages of filling and also after the fill to the entire height has been completed. This shall hold good for embankments as well. The Contractor shall protect the earth fill from being washed away by rain damaged in any other way. Should any slip occur, the contractor shall remove the affected material and make good the slip at his cost. The fill shall be carried out to such dimensions and levels as indicated on the drawings after the stipulated compaction. The fill will be considered as incomplete if the desired compaction has not been obtained. If specifically permitted by the Engineer, compaction can be obtained by allowing loaded trucks conveying fill or other material to ply over the fill area. Even if such a method is permitted, it will be for the Contractor to demonstrate that the desired/

specified compaction has been obtained. In order that the fill may be reasonably uniform throughout, the material should be dumped in place in approximately uniform layers. Traffic over the fill shall then be so routed to compact the area uniformly throughout.

- If so specified, the rock as obtained from excavation may be used for filling and levelling to indicate grades without further breaking. In such an event, filling shall be done in layers not exceeding 50 cms approximately. After rock filling to the approximate level, indicated above has been carried out, the void in the rocks shall be filled with finer materials such as earth, broken stone, etc. and the area flooded so that the finer materials fill up the voids. Care shall be taken to ensure that the finer fill material does not get washed out. Over the layer so filled, a 100 mm thick mixed layer of broken material and earth shall be laid and consolidation carried out by a 12 tonne roller. No less than twelve passes of the roller shall be accepted before subsequent similar operations are taken up.

- **Field Density**

- The compaction, only where so called for, in the schedule of quantities/ items shall comply with the specified (Standard Proctor/ Modified Proctor) density at moisture content differing not more than 4 percent from the optimum moisture content. The CONTRACTOR shall demonstrate adequately at his cost, by field and laboratory tests that the specified density has been obtained.

- **Measurement and Payment**

- All excavation shall be measured net. Dimensions for purpose of payment shall be reckoned on the horizontal area of the excavation at the base for foundations of the walls, columns, footings, tanks, rafts or other foundations/ structures to be built, multiplied by the mean depth from the surface of the ground in accordance with the drawings. Excavation in side slopes will not be paid for. The CONTRACTOR may make such allowance in his rates to provide for excavation in side slopes keeping in mind the nature of the soil and safety of excavation.
- Backfilling as per specification the sides of foundations of columns, footings, structures, walls, tanks, rafts, trenches, etc. with excavated material will not be paid for separately. It shall be clearly understood that the rate quoted for excavation including backfilling shall include stacking of excavated material as directed, excavation/ packing of selected stacked material, conveying it to the place of final backfill, compaction etc. as specified. Payment for fill inside trenches, plinth or similar filling with selected excavated material will be made for only compaction as specified/ directed. Cost of all other operations shall be deemed to have been covered in the rate quoted for excavation. The plinth ground levels shall be surveyed before hand for this purpose. If no compaction is specified/ desired, such filling will not be separately paid for. In such an event the fill shall be levelled/ finished to the profile as directed at no extra cost.
- Backfilling, plinth filling, etc. with borrowed earth will be paid for at rates quoted. The quoted rate shall include all operations such as clearing, excavation, lead and transport, fill, compaction, etc. as specified. Actual quantity of consolidated filling or

actual quantity or excavation in the borrow pits (less such top soil which has been excavated and not used for filling) whichever is less shall be measured and paid for in cubic meters. The lead, lift etc. shall be as indicated in the schedule of quantities.

- Actual quantity of consolidated sand filling shall be measured and paid in cubic meter.

IV. REMOVAL OF EXCAVATED STUFF

- **Removal of Excavated Stuff and lying within project area limit as directed by Engineer in charge etc complete.**

- After refilling the pipe / chamber trenches, sides of recharge pits, drain & foundation sides by the excavated stuff/ borrow area materials with 15cm thick layers, including ramming, watering and consolidating up to possible extent as specified in excavation & refilling item, the surplus stuff shall be disposed off as directed within the prescribed limits of Jabalpur smart city limits as directed by the Engineer in charge-in charge.
- After refilling surplus earth shall have to cart by the contractor within JSCL limit including loading transporting unloading spreading without any extra cost.
- **Mode of Measurement And Payment:**
- The rate shall be per Cubic Meter of truck-body bases.

V. RAIN WATER HARVESTING STRUCTURE COMPONENTS

- **BORE-HOLE:**

- Bored / Drilled wells are constructed using a rotary bucket auger or drill depending upon the depth. They are usually completed by perforating the casing or using a sand screen with continuous slot openings.
- During the test hole drilling, a lithologic or formation log shall be prepared. Soil and rock samples are taken at various depths and the type of geologic material is recorded. This helps in identifying the zones with the best potential recharge depth. This allows more of the rainwater to be recharged to the deeper aquifer. The depth shall be as specified by the Engineer-in-charge.
- Drilling of Bore Well - Aligning to correct location, drilling for BORE HOLE in all kind of soil, sand, clay murrum, soft rock, hard rock and hard murrum, boulders etc with mechanical means excluding 300mm dia shallow well (CS) casing pipe conforming to IS 12818-2010, filling the gap between casing and slotted U-PVC (150mm dia) pipe with coarse sand for required depths as directed by Engineer in charge in Charge.
- Diameter of the bore well pipes & casing pipes may vary after the design computation as per recharge rate of the ground strata.
- Bore drilling suitable for 150mm Dia PVC Casing Pipe for RWH; Maximum Depth varying from 0.0m to 60.0m.

- **Verticality of Wells**

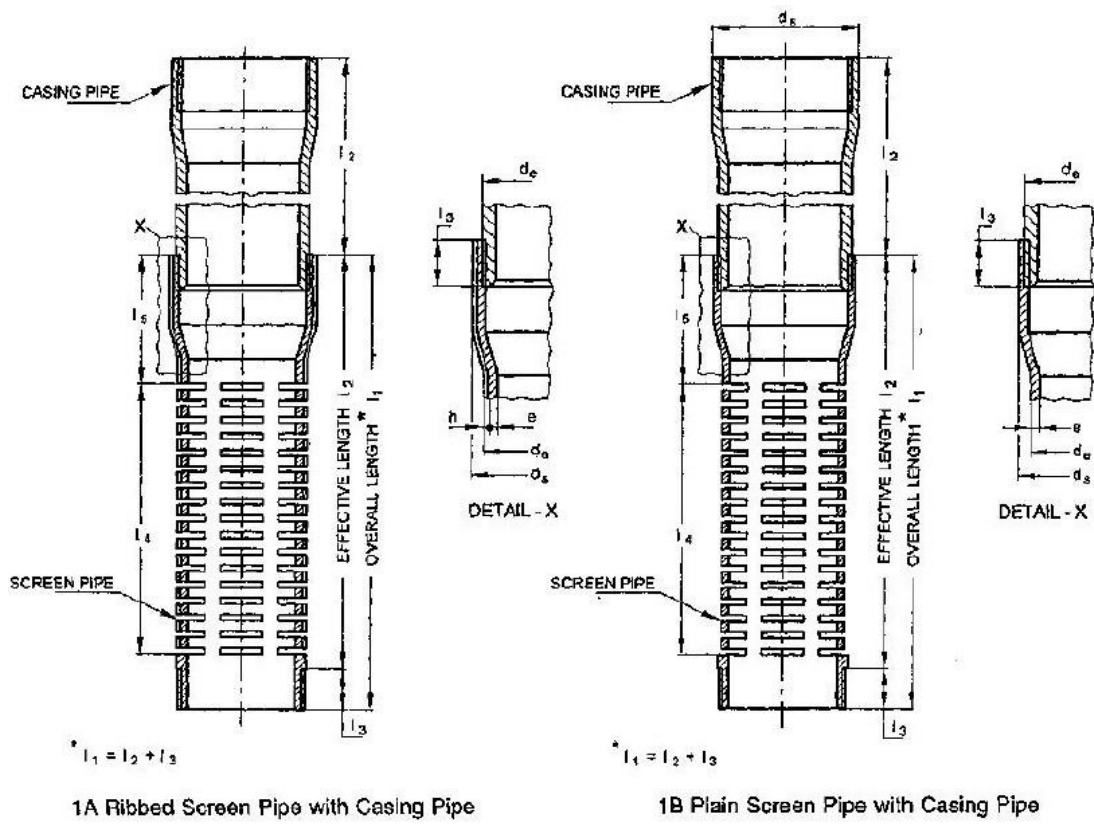
- Wells must be perfectly vertical; a simple method is to use plumb disk. Two disks made out of 3mm thick steel plate are connected together by a rod of 25mm

diameter and 3 m long tightened with the help of nuts at the ends. Some holes are punched in plates to facilitate immersion in water.

- A knob is fixed on the top nut to which a thin steel wire is attached. The disk is suspended into the tube by the wire passing over a pulley on a tripod. When the disk is lowered into the pipe, the wire is exactly in the centre of pipe. When the disks are further lowered down and if the well pipe is not truly vertical, the wire will deviate from the centre and that shall be indicated at the top of pipe. Absolute verticality is ideal but a deviation of 100mm per 30 meters of boring is generally acceptable where submersible pumps are not to be installed.

- **SCREENING AND CASING PIPES FOR RECHARGE STRUCTURES:**

- General: Screen or slotted pipes are used for casing in ground water section to allow water to enter inside the well. These pipes can also be used to provide soak ways for the storm water/rain water to infiltrate back in to surrounding ground. Thus we can recharge the ground water resource and avoid the wastage of rain water in the form of runoff. These percolation pipes can also used in roof top water harvesting in the form of percolation pit, to recharge the ground water.
- The above pipes shall conform to the standards as specified in IS: 12818:2010 Unplasticized polyvinyl chloride (PVC-U) Screen and casing pipes for Bore/tube-wells – specifications.
- The material from which the pipe is produced shall consist substantially of unplasticized polyvinyl chloride to which may be added only those additives that are needed to facilitate production of sound and durable pipe of good surface finish and mechanical strength under conditions of use and as directed by Engineer in charge-in-charge.
- Pipe shall be designated by its type, whether ribbed medium well screen (RMS), ribbed deep well screen (RDS), plain medium well screen (PDS) or casing (CS or CM or CD) followed by its nominal diameter DN, slot width and length of the pipe.
- The diameters and wall thickness shall be conforming to IS: 12818 latest code.
- The screening and casing pipes shall have male threads at spigot end and female threads at the socket end. The threads shall be in accordance with IS 554 and IS 12818.
- The Tests shall be in accordance with IS 12818 for its Visual Appearance, Internal Diameter, Density, and Resistance to external blows, Tensile strength and other tests as indicated by Engineer in charge-in-charge.
- The scale of sampling and criteria for conformity of a lot for acceptance tests shall be as per test specified in Cl.10 of IS: 12818. All pipes in a single consignment of the same type (screen or casing), same size and manufactured under essentially similar conditions, shall constitute a lot.



- FILTERING UNITS:

- FRP Filter Drum :Providing & fixing FRP (FIBER REINFORCED POLYMER) based micro filter drum/ extension of 700mm dia CGWB/GRIHA approved pure rain filter"s diameter Accordance to the design , drawing and specification complete as per entire satisfaction of Engineer-in-Charge including all leads, lifting at any height ,loading ,unloading all taxes ,charges ,all l&M ,T&P as complete job .Nothing extra will be paid whatsoever the case may be.
- Stainless Steel Bucket inside FRP Drum : Providing and fixing of CGWB/GRIHA approved Pure Rain Filter 700mm dia with 300mm dia inlet and outlet to accumulate storm water having desilting suspended solid catcher made out of FRP with strainers steel 304 grade strainers, having steel bucket of 600micron capable of eliminating finer particulate matter upto160mmicron filtration made of SS net with long fiber foam of 25mm thickness, green color, filtration capacity 40-80 kiloliters complete in accordance to the design, drawing and specification complete as per entire satisfaction of Engineer-in- Charge. Total depth of filter shall be 2000mm including two filter extension including all leads, lifting at any height ,loading ,unloading all taxes ,charges, all l&M ,T&P as complete job .Nothing extra will be paid whatsoever the case may be.
- 400 gsm Non-woven Geotextile : Provide and fixing of non-Woven Geotextile having thickness of 400 Gsm, Having minimum tear strength of 25 gsm ASTM

d4533,width wise at least 215 ASTM D4533 having puncture strength of 1550 pulse as per ASTM D 4595 in two layer ,made out of long fibers to hold the modules and protect liner including cutting ,sizing, heat ,welding and punched for high porosity and proper percolation. Complete as per entire satisfaction of engineer in charge. including all leads, lifting at any height ,loading ,unloading all taxes ,charges ,all l&M ,T&P as complete job .Nothing extra will be paid whatsoever the case may be.

- Charcoal : Supply and filling in plinth with charcoal layer under floors, including watering ramming consolidating and dressing complete
- Sand : Supply and filling in plinth with good quality river sand under floors, including watering ramming consolidating and dressing complete
- Broken stone aggregates: Supplying, filling, spreading & levelling stone aggregate 20mm nominal size in recharge pit, in reduced thickness, for all lead & lifts, all complete.

- **CO-POLYMER BASED RAIN WATER HARVESTING STRUCTURE:**

- Providing & Fixing of Co-polymer based rainwater harvesting structure including supply of cross wave of size 494 mm x 494 mm x220mm with minimum void ratio of 94.7% having a weight of 1.8 and spacers having size of 988 mm x 240 mm x 25 mm having a weight of 0.8 kg of approved make and arranging the same in as directed by the engineer -in-charge and in complete accordance to the design, drawings. The rates are inclusive of all necessary transportation, loading, unloading excise, vat control etc.as per entire satisfaction of Engineer -in-charge including all leads, lifting at any height

,loading ,unloading all taxes ,charges ,all l&M ,T&P as complete job .Nothing extra will be paid whatsoever the case may be.

- **FRP MANHOLE CHAMBER:** Supply and installation of FRP based access Chambers, with appropriate duty/ loading conditions and each having of required size to have access in the tank complete in accordance to the design, drawings and specifications complete with all the necessary care.

- **BRICK CHAMBER BEFORE FILTERING UNIT**

It is the initial filtering unit before the FRP & stainless steel filtering unit. It shall be decided based on the design requirements.

Excavation

This shall be done to dimensions and levels on the drawings.

Bed Concrete

Bed concrete shall be in 1:2:4 cement concrete, 100 mm thick for inspection chambers, 150 mm thick for depths upto 3 m and 300 mm thick for greater depths in case of chambers or as specified by the ENGINEER-IN-CHARGE..

Brick Chamber with RC slab

All manholes, chambers as specified shall be constructed in brick masonry in cement mortar 1:4 (1 cement : 4 coarse sand) or as specified in the schedule of Quantities with RCC top slab Cement concrete grade M-15 & foundation in cement concrete grade M-7.5.

Plaster

Inside walls chambers shall be plastered with 12mm thick cement plaster 1:3 mixed with waterproofing material and finished smooth with a floating coat of neat cement. External walls shall be plastered in CM 1:3 and sponge finished.

Vata

75 mm fillet shall be made with C.M. 1:3 all-round the external joint between the bed concrete and brick masonry wall of chamber.

Benching

Channels and benching inside the inspection chambers shall be done in cement concrete 1:2:4, rendered smooth with neat cement. The channel provided shall be of semicircular shape of the same diameter as the diameter of the pipe drain with vertical walls. The depth of channel shall be equal to the pipe drain diameter and the

P.C.C. benching top will have a slope of 1 in 12 from the side walls to the channel

Steps

Steps shall be provided wherever the depth of the chamber is more than 1 m. Foot rest shall be C.I. rungs weighing 2.35kg. These shall be embedded 20 cm deep in 20 @ 20 @ 10 cm blocks of P.C.C. 1:3:6. The blocks with C.I. foot rest placed in its centre shall be cast in site along with masonry.

Footrest shall be placed 300 mm apart vertically and 375 mm horizontally in staggered fashion. First footrest shall be 450 mm below top. Footrest shall be painted with bituminous paint and the portion embedded shall be painted with thick cement slurry before fixing. Or the other steps i.e encapsulated copolymer on MS .

Testing

Chamber after it is raised above highest expected subsoil water level in monsoon shall be tested for water tightness. The mouths of all pipes entering the chamber shall be suitably plugged with brick masonry or wooden or any other type of plug. Chamber under test shall then be filled with water up to general subsoil water level and the level observed for one hour, it shall then be deemed as watertight. During testing the pit around shall be kept free of water and CONTRACTOR shall observe the places where leakage takes place and take steps to correct the same.

Measurement

Inspection chambers, gullies etc. shall be enumerated under relevant items in the schedule of quantities. Depth shall be measured from top the cover to the invert of channel. Depth shall be measured as an extra over the depth specified under enumerated item and paid per running meter under separate item following the main item. Weight and duty of gully gratings shall be specified in the item.

Rates

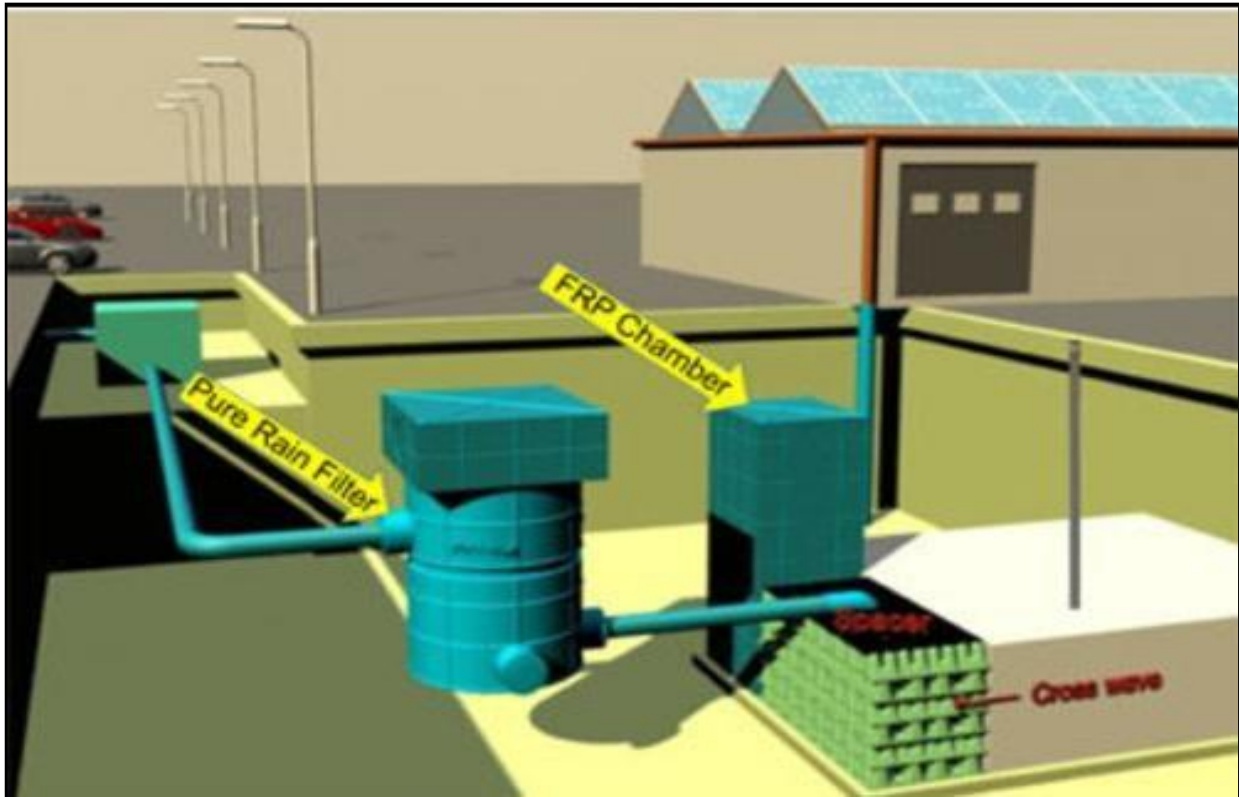
The rate shall include the cost of material and labour involved in all the operations from above up to specified depth in the item. Excavation and refilling is generally paid for separately under relevant item or excavation can be clubbed with the item of chambers, but in that case maximum depth will have to be specified in the item. If the duty of the cover in the item is changed during execution by the ENGINEER- IN-CHARGE-in-charge amount due to difference in weight of the cover shall be paid extra or deducted as the case may be.

- MEASUREMENT AND PAYMENT FOR MAJOR ITEMS OF WORK

Payment for the rain water harvesting shall be on unit basis complete as per the drawings, specifications and directions of the Engineer in charge in charge.

VI. METHODOLOGY OF INSTALLING RAIN WATER HARVESTING STRUCTURE (COPOLYMER BASED RWH SYSTEM & FILTER)

- Identification of Suitable Site for Recharge Pit with proper reconnaissance survey & as per the approval of Engineer in-charge.
- Boring/drilling bore well work by DTH drilling machine/RR machine 300 mm diameter.
- Lowering of Medium Well casing UPVC CM/RMS pipe 150 mm dia with MS/PVC Bail Plug and MS/PVC End Cap.
- Gravel packing around UPVC CM/RMS pipe 150 mm diameter.
- Earthwork Excavation by Hydraulic Machine/Manual Labor for Recharge pit.
- Preparation of proper base for structure.
- Laying of 150mm thick broken Stone Aggregate of 20mm nominal Size/ Boulders on the prepared sub base of the pit.
- Laying of 100 mm thick Good quality river sand layer above the broken stone layer.
- Installation/laying of Non-Woven Geotextiles 400 GSM in Double layer.
- Installation of Modular cross waves layer (Recycled Polypropylene made) up to the desired depth.
- Laying of Spacers on top Layer for making monolithic/interlocking structure.
- Wrapping & Welding of Non-Woven Geotextiles.
- Providing and laying Good quality river sand layer of 50mm thick on top of Geotextile.
- Excavation of Earth for Filter & Filter Chamber up to required depth.
- Providing and laying CC 1: 5: 10 & 1: 2: 4 as base for fixing of pure rain filters.
- Installation of pure rain filters FRP Based approved by GRIHA.
- Construction of brick masonry silt chamber for the desired size.
- Interconnection of UPVC Pipe with storm water drain and silt chamber, filter, cross wave structure.
- Testing for actual percolation rate of recharge structure by emptying a Water Tanker .
- Refilling of Excavated earth up to finished level.
- Final dressing of sites.
- Installation of informatory Sign Board.



TYPICAL ARRANGEMENT RWH STRUCTURE WITH CROSS WAVE TECHNOLOGY



TYPICAL SECTION OF CROSS WAVE POLYMERS

1.7 QUALITY CONTROL PLANS

- The quality control plan shall list and define in sequential order all process control activities, inspection and tests proposed to be performed on the

equipment/ material starting from component procurement and from testing stages to product dispatch. The quality control plan shall indicate and identify the applicable standards, detailed description with diagram the procedure, acceptance criteria, extent of check and record to be generated.

- The contractor shall within fifteen (15) days of placement of order submit the following information to the JSCL.
 - ❖ Descriptive list of the raw material as well as bought out accessories and the names of sub suppliers selected from those furnished along with the Specification.
 - ❖ Type test certificates of the raw material and bought out accessories.
 - ❖ Quality Assurance Plan (QAP) with holds points for JSCL's inspection. The QAP and hold points shall be discussed between the JSCL and the CONTRACTOR before the QAP is finalized.

1.8 INSPECTION

- The inspection may be carried out by the JSCL or his representative at any stage of manufacturing. The successful contractor shall grant free access to the JSCL/ its representative/s at a reasonable notice when the work is in progress. Inspection and acceptance of any equipment under this specification by the JSCL shall not relieve the contractor of his obligation of furnishing equipment in accordance with the specification and shall not prevent subsequent rejection if the equipment is found to be defective.
- The contractor shall keep the JSCL informed in advance regarding the time of starting and progress of manufacture of all the equipment in its various stages so that arrangements could be made for stage inspection, if desired by JSCL.
- No material shall be dispatched from its point of manufacture unless the material has been satisfactorily inspected and tested and approved by JSCL.
- Contractor shall, during inspection/ at any stage as sought by JSCL, will furnish test certificates for all equipment including bought out items as included in this bid. However, the JSCL reserves the right to insist for witnessing the acceptance/routine testing of bought out items.
- The contractor shall communicate to the JSCL the details of all testing programme at least three (3) weeks in advance. JSCL reserves the right to waive the inspection at any stage.

1.9 HAND-OVER OF THE SYSTEM DURING EXIT PERIOD

- The contractor shall hand over to the JSCL the following before the expiry of the contract or in the case of termination of contract by JSCL with justifiable reason as specified elsewhere in the RFP:
 - ❖ Information relating to the current services rendered and technology

and technical data relating to the performance of the services; Entire documentation relating to various components of the Project, any other data and confidential information related to the Project;

- ❖ All other information (including but not limited to documents, records and agreements) relating to the products & services related to the project to enable JSCL and its nominated agencies, or its replacing CONTRACTOR to carry out due diligence in order to transition the provision of the Project Services to JSCL or its nominated agencies, or its replacing CONTRACTOR (as the case may be).
- The duration of 60 working days after completion of the contract period shall be considered as handover/ exit period during which contractor shall give full access to its premises, records, data base and assets related to this project.
- All the information as indicated above which is handed over to JSCL should not be copied, sold or reused by contractor under any circumstances without any written approval from JSCL.
- During the exit period contractor shall not reduce any manpower or replace any manpower willfully as available on the day of issue of notice. In case the contractor reduce the manpower then JSCL shall charge Rs. 1000/- per person per day as penalty for the remaining duration of the exit period.

1.10 *Completion and Post Completion Activities*

- When completion is said to occur, when all erection/installation and commissioning of all Rain water harvesting structure works and minor civil works under the scope of the Contractor are completed to the satisfaction of the Project Manager's Representative.
- The Project Manager may inform the Contractor regarding deficiencies for rectification by the Contractor within a jointly agreed period before the pre-commissioning checks could be undertaken. Alternately the Project Manager, when the defects are of minor nature may undertake the pre-commissioning checks, permitting the Contractor to concurrently undertake rectification of such defects. Rectification of all defects, so notified by the Project Manager, to his satisfaction shall be a prerequisite to issue of Taking over Certificate.

1.11 *Clause for Confidentiality*

Bidders will ensure that they will not disclose any of the information which will be provided to them by the client / consultants relating to process, design method, construction, manufacturing operation, including methods, inventions, trade secrets, process know-how including but not limited to reports, computations/calculations, basic studies, concept notes, flow charts, sketches, drawings, specifications, data sheets, inspection and test reports, operation and maintenance manuals, process data, test data, performance data and all

documentation there of including minutes of discussions and will maintain the confidentiality in all respect.

In the event that Bidder disclose or caused to be disclosed or disseminate, distribute or release such Information or other confidential information without the prior written consent of Client, Client shall be entitled to seek immediate injunctive relief and such other legal measures as deemed fit by client for safeguarding JSCL's interests.

IS CODES-DSR ITEMS

IS Code No.	Subject
GENERAL	
IS 4082	Stacking & storage of construction materials and components at site – Recommendations
IS 1200	Method of measurement of building and civil Engineer in chargeing work.(All Parts)
IS 1141	Seasoning of Timber – Code of practice
EARTH WORK	
IS 3674	Safety code for excavation work
IS 1498	Classification and identification of soils for general Engineer in charging purposes.
IS 1200 (Pt-1)	Method of measurement of earth work
IS 1200 (Pt-27)	Method of measurement of earth work (by Mechanical Appliances)
IS 4081	Safety code for Blasting and related drilling operation
IS 4988 (Part-IV)	Excavators
IS 6313 (Pt-II)	Anti Termite measures in buildings (pre-constructional)
IS 6313 (Pt-III)	Anti Termite measures in buildings for existing buildings
IS 6940	Methods of test for pesticides and their formulations
IS 8944	Chlorpyrifosemulsifiable concentrates
IS 8963	Chlorpyrifos – Technical specifications
IS 12138	Earth moving equipment's
(Part-1)	Part 1 Earthwork.

(Part-27)	Part 27 Earthwork done by mechanical appliances.
IS: 2720	Methods of test for soils:
IS: 2720-(Part 1)	Preparation of dry soil samples for various tests.
IS: 2720-(Part 2)	Determination of water content.
IS: 2720-(Part 4)	Grain size analysis.
IS: 2720-(Part 5)	Determination of liquid and plastic limit.
IS: 2720-(Part 7)	Determination of water content-dry density relation using light compaction.
IS: 2720-Part (9)	Determination of dry density - moisture content relation by constant weight of soil method.
IS: 2720-(Part 14)	Determination of density index (relative density) of cohesionless soils.
IS: 2720-(Part 28)	Determination of dry density of soils in place, by the sand replacement method.
BRICK WORK	
IS 712	Specification for building limes
IS 1077	Common burnt clay building bricks
IS 1200 (Part 3)	Method of measurements of brick works
IS 2212	Code of practice for brick work (1 st Revision)
IS 3495	Method of test for burnt clay building bricks
IS 5454	Methods of sampling of clay building bricks
IS 13757	Specification of burnt clay fly ash bricks
IS 2691	Burnt clay facing bricks

SECTION-8
DRAWINGS

LIST OF BID DRAWINGS

- Typical Drawing-1 : 50 Cum Capacity RWH structure
- Typical Drawing-2 :100 Cum Capacity RWH structure
- Typical Drawing-3 : 200 Cum Capacity RWH structure

SECTION-10
ENVIRONMENT HEALTH AND SAFETY REQUIREMENTS (EHS POLICY)

ENVIRONMENT, HEALTH & SAFETY POLICY

**SPECIFICATION FOR ENVIRONMENT, HEALTH & SAFETY POLICY (EHS)
MANAGEMENT**

CONTENTS

CLAUSE NO.	TITLE
1.0	SCOPE
2.0	REFERENCES
3.0	REQUIREMENT OF ENVIRONMENT, HEALTH & SAFETY
3.1	MANAGEMENT RESPONSIBILITY
3.2	HOUSE KEEPING
3.3	ENVIRONMENT ,HEALTH & SAFETY
4.0	DETAILS OF EHS MANAGEMENT SYSTEM BY CONTRACTOR
4.1	ON AWARD OF CONTRACT
4.2	DURING JOB EXECUTION

1.0 SCOPE: This specification established the Environment, Health and Safety (EHS) management requirement to be complied with by the Contractors during construction. Requirements stipulated in this specification shall supplement the requirements of EHS Management given in relevant Act (s) / legislations. General Conditions of Contract (GCC), Special Conditions of Contract (SCC) and Job Specifications. Where different documents stipulate different requirements, the most stringent shall be adopted.

2.0 REFERENCES: This document should be read in conjunction with following:

- General Conditions of Contract (GCC)
- Special Conditions of Contract (SCC)
- Job specifications

3.0 REQUIREMENTS OF ENVIRONMENT, HEALTH & SAFETY (EHS) MANAGEMENT SYSTEM TO BE COMPLIED BY BIDDERS

3.1 MANAGEMENT RESPONSIBILITY

- The Contractor should have a documented EHS policy to cover commitment of their organization to ensure health, safety and environment aspects in their line of operations.
- The EHS management system of the Contractor shall cover the EHS requirements including but not limited to what is specified under Para 1.0 and para 2.0 above.
- Contractor shall be fully responsible for planning and implementing EHS requirements. Contractor as a minimum requirement shall designate / deploy the following to co-ordinate the above:
 - ❖ No. of workers deployed
 - ❖ Up to 250 - Designate one safety supervisor
 - ❖ Above 250 & up to 500 - Deploy one qualified and experienced safety Engineer/officer
 - ❖ Above 500-One additional safety (for every 500 or less) engineer/officer as above.
- Contractor shall indemnify & hold harmless Owner / JSCL & either representatives free from any and all liabilities arising out of non – fulfillments of EHS requirements.
- The Contractor shall ensure that the Environment, Health & Safety (EHS) requirements are clearly understood & faithfully implemented at all levels at site. The Contractor shall promote and develop consciousness for Safety , Health and Environment among all personnel working for the Contractor. Regular awareness, program site meetings shall be arranged on EHS activities to cover hazards involved in various operations during construction.
- Arrange suitable first aid measures such as First Aid Box, trained personnel to give First Aid, Stand by Ambulance or Vehicle and install fire protection measures such as : adequate number of steel buckets with sand and adequate fire extinguishers to the satisfaction of JSCL/Owner.

- The Contractor shall evolve a comprehensive planned and documented system for implementation and monitoring of the EHS requirements. This shall be submitted to JSCL/Owner for approval. The monitoring for implementation shall be done by regular inspections and compliance to the observations thereof. The Contractor shall get similar EHS requirements implemented at his sub-contractor(s) work site/office. However, compliance of EHS requirements shall be the sole responsibility of the Contractor. Any review / approval by JSCL/Owner shall not absolve contractor of his responsibility / liability in relation to all HSE requirements.
- Non-Conformance on EHS by Contractor (including his Sub-contractors) as brought out during review/audit by JSCL/Owner representatives shall be resolved forthwith by Contractor. Compliance report shall be provided to JSCL/Owner.
- The Contractor shall ensure participation of his Resident Engineer / Site-in- Charge in the Safety Committee / EHS Committees meetings arranged by JSCL/Owner. The compliance of any observations shall be arranged urgently. He shall assist JSCL/Owner to achieve the targets set by them on EHS during the project implementation.
- The Contractor shall adhere consistently to all provisions of EHS requirements. In case of non-compliance or continuous failure in implementation of any of EHS provisions; JSCL/Owner may impose stoppage of work without any Cost & Time implication to Owner and/or impose a suitable penalty for non-compliance with a notice of suitable period, up to a cumulative limit of 1.0% (one percent) of Contract Value with a maximum limit of Rs. 10 lakhs. This penalty shall be in addition to all other penalties specified else where in the contract. The decision of imposing stoppage work, its extent & monetary penalty shall rest with JSCL/Owner & binding on the Contractor.
- All fatal accidents and other personnel accidents shall be investigated by a team of Contractor's senior personnel for root cause & recommend corrective and preventive actions. Findings shall be documented and suitable actions taken to avoid recurrences shall be communicated to JSCL/Owner.
- Owner / JSCL shall have the liberty to independently investigate such occurrences and Contractor shall extend all necessary help and co-operation in this regard.

3.2 HOUSE KEEPING

- Contractor shall ensure that a high degree of house keeping is maintained and shall ensure inter alia the followings wherever applicable:
 - ❖ All surplus earth and debris are removed/disposed off from the working areas to identified location(s).

- ❖ Unused/Surplus Cables, Steel items and steel scrap lying scattered at different places within the working areas are removed to identified location(s).
- ❖ All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from work place to identified location(s).
- ❖ Roads shall be kept clear and materials like: pipes, steel, sand boulders, concrete, chips and bricks etc. shall not be allowed on the roads to obstruct free movement of men & machineries.
- ❖ Fabricated steel structural, pipes & piping materials shall be stacked properly for erection.
- ❖ Water logging on roads shall not be allowed.
- ❖ No parking of trucks / trolleys, cranes and trailers etc. shall be allowed on roads which may obstruct the traffic movement.
- ❖ Utmost care shall be taken to ensure over all cleanliness and proper upkeep of the working areas.
- ❖ Trucks carrying sand, earth and pulverised materials etc. shall be covered while moving within the premises.
- ❖ Only properly designed steel scaffolding materials to be used for working at heights more than 3.0M . Double scaffolding using wooden ballis may be allowed for working at height less than 3.0M

3.3 ENVIRONMENT, HEALTH AND SAFETY

- The Contractor shall provide safe means of access to any working place including provisions of suitable and sufficient scaffolding at various stages during all operations of the work for the safety of his workmen, and, JSCL/Owner. Contractor shall ensure deployment of appropriate equipment and appliances for adequate safety and health of the workmen and protection of surrounding areas.
- The Contractor shall ensure that all their staff and workers including their sub-contractor(s) shall wear Safety Helmet and Safety shoes. Contractor shall also ensure use of safety belt, protective goggles, gloves etc. by the personnel as per job requirements. All these gadgets shall conform to relevant IS specifications or equivalent.
- Contractor shall ensure that a proper Safety Net System shall be used at appropriate locations. The safety net shall be located not more than 30 feet (9.0 metres) below the working surface at site to arrest or to reduce the consequences of a possible fall of persons working at different heights.
- Contractor shall ensure that flash back arrester shall be used while using
- Gas Cylinders at site. Cylinders shall be mounted on trolleys.

- The Contractor shall assign to his workmen, tasks commensurate with their qualification, experience and state of health for driving of vehicles, handling and erection of materials and equipments. All lifting equipments shall be tested certified for its capacity before use. Adequate and suitable lighting at every work place and approach there to, shall be provided by the Contractor before starting the actual operations at night.
- Hazardous and/or toxic materials such as solvent coating, or thinners shall be stored in appropriate containers.
- All hazardous materials shall be labelled with the name of the materials, the hazards associated with its use and necessary precautions to be taken.
- Contractor shall ensure that during the performance of the work, all hazards to be health of personnel, have been identified, assessed and eliminated.
- Chemical spills shall be contained & cleaned up immediately to prevent further contamination.
- All personnel exposed to physical agents such as ionizing radiation, ultraviolet rays or similar other physical agents shall be provided with adequate shielding or protection commensurate with the type of exposure involved.
- Where contact or exposure of hazardous materials could exceed limits or could otherwise have harmful affects, appropriate personal protective equipments such as gloves, goggles, aprons, chemical resistant clothing and respirator shall be used.
- Crèche where 10 or more female workers are having children below the age of 6 years.
- Reasonable Canteen facilities are made available at appropriate location depending upon site conditions.
- Suitable facilities for toilet, drinking water, proper lighting shall be provided at site and labour camps, commensurate with applicable Laws / Legislation.
- Contractor shall ensure storage and utilization methodology of materials that are not detrimental to the environment. Where required Contractor shall ensure that only the environment friendly materials are selected.
- All persons deployed at site shall be knowledgeable of and comply with the environmental laws, rules & regulations relating to the hazardous materials substances and wastes. Contractor shall not dump, release or

otherwise discharge or dispose off any such materials without the express authorization of JSCL/Owner.

4.0 DETAILS OF EHS MANAGEMENT SYSTEM BY CONTRACTOR

4.1 On Award of Contract

The Contractor shall prior to start of work submit his Safety Health and Environment Manual or procedure and EHS Plans for approval by JSCL/Owner. The Contractor shall participate in the pre-start meeting with JSCL/Owner to finalise EHS Plans including the following :

- Job procedure to be followed by Contractor for activities covering. Handling of equipment, Scaffolding, Electric Installation, describing the risks involved, actions to be taken and methodology for monitoring each activity.
- JSCL/Owner review / audit requirement.
- Organization structure along with responsibility and authority records / reports etc. on EHS activities.

4.2 During job execution

Implement approved Environment, Health & Safety management procedure including but not limited to as brought out under para 3.0. Contractor shall also ensure to:

- Arrange workmen compensation insurance, registration under ESI Act, third party liability insurance etc., as applicable.
- Arrange all HSE permits before start of activities (as applicable) like hot work, confined space, work at heights, storage of chemical / explosive materials and its use and implement all precautions mentioned therein.
- Submit timely the completed checklist on EHS activities, Monthly EHS report, accident reports, investigation reports etc. as per JSCL/Owner requirements. Compliance of instructions on EHS shall be done by Contractor and informed urgently to JSCL/Owner.
- Ensure that Resident Engineer / Site-in-Charge of the Contractor shall attend all the Safety Committee / EHS meetings arranged by JSCL/Owner. Only in case of his absence from site that a second senior most person shall be nominated by him in advance and communicated to JSCL/Owner.

- Display at site office and work locations caution boards, list of hospitals, emergency services available.
 - Provide posters, banners for safe working to promote safety consciousness.
 - Carryout audits / inspection at sub contractor works as per approved EHS
 - Document and submit the reports for JSCL/Owner review.
 - Assist in EHS audits by JSCL/Owner, and submit compliance report.
 - Generate & submit HSE records / report as per EHS Plan
 - Appraise JSCL/Owner on EHS activity

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