



SBI INFRA MANAGEMENT SOLUTIONS PVT LTD.
WHOLLY OWNED SUBSIDIARY OF SBI
CIN :-U9300MH2016PTC282507
JAIPUR CIRCLE

TENDER DOCUMENT

PART – 1

TECHNICAL BID

SPECIFICATIONS & CONDITIONS OF CONTRACT -

CONSTRUCTION & ALLIED WORK AT

SBI SME BRANCH,

INDUSTRIAL ESTATE, BALOTRA

Date of issue of Tender: ONLINE ON 15.05.19

TENDER INVITED BY:

The Vice President, SBI Infra Management Solutions Pvt. Ltd;
Ground floor, State Bank of India, Admin Office,
5, Nehru Place, Tonk Road,
Jaipur , Rajasthan - 302015.

TENDER ID JAI201905020

Date 15.05.19

NOTICE INVITING TENDER (RE-TENDER)

SBI INFRA MANAGEMENT SOLUTIONS PVT LTD. behalf of SBI Invites Sealed Tenders from the Civil Contractors empanelled with SBI Jaipur Circle for **Construction & Allied works of SME Branch, Balotra.**

Details of tenders are as under:-

1.	Name of work	CONSTRUCTION AND ALLIED WORK (CIVIL WORK & DISMANTLING) OF SME BRANCH BALOTRA
2.	Time allowed for completion	270 days from the date of commencements/handing over of the site whichever is earlier. Please note that Construction work proposed in two Phases:- Existing branch premises area is 194.8 Sqm (2097 Sqft.) and total plot area is 1115 Sqm. The construction & demolishing work is proposed in two phases:- <ul style="list-style-type: none">• Phase-I: - approx 226.8 Sqm (18.9*12) building to be constructed on back side of the plot. Branch to be shift in constructed part of Phase-I.• Phase-II: - Demolishing of existing old building and construct remaining 220 Sqm of Ground floor & 1st Floor.
3.	Earnest Money Deposit	Rs.80,000/- (Eighty thousand) as earnest money (approx. 1% of the estimate) in the form of D.D. in favour of SBIIMS Pvt Ltd payable at Jaipur. And submitted at SBIIMS Circle office SBI AO Building ,Tonk Road Lalkothy Jaipur along with the SB collect reference number of Tender fees
4.	Security Deposit and performance guarantee	2% of the accepted value of the contract including earnest money. Vendor has to submit the difference amount of the estimated cost and tender amount as a performance guarantee in the form of FD if the quoted amount observed below 10% of estimate.
5.	Tender Fees	Rs. 10,000/- (Rs. Ten Thousand Only) to be paid to TENDER ID JAI201905020 through State Bank Collect ONLY as detailed under:- <ol style="list-style-type: none">1) login https://www.onlinesbi.com2) Select SB Collect from Top Menu, click the check box and "Proceed"3) Select "All India" in "State of Corporate/Institution" & Select "Commercial Services" in "Type of Corporate/Institution" then "Go"

		<p>4) Select “SBI Infra Management Solutions Pvt. Ltd” in Commercial Services Name and “Submit”</p> <p>5) Select “Tender Application Fee” in “Payment Category” and enter the “Tender ID” exactly as given in first page top of this tender (characters in uppercase Only).</p> <p>6) Fill up all fields such as email, GST No., Mobile No, Vendor/Firm Name etc and make payment.</p> <p>7) Enclose payment receipt having unique reference No. along with EMD.</p> <p>Tender fees paid by the vendors earlier for the same work need not pay now(please enclose the receipt)</p> <p>The tender fee is Non Refundable.</p>
6.	<u>End date of accepting tender fees through SB Collect</u>	29.05.2019 Up to 03:00 PM
7.	Last date and time of receipt of tender	Online 30.05-2019 Up to 03:00 PM
8.	Address at which the tenders are to be submitted	SBI e-Tender Portal SBI e-Tender Portal e-tender.sbi
9.	Date and time of opening of tender	Online on 30.05-2019 Up to 03:30 PM
10.	Place of opening of tender	Online
11.	Defects Liability Period	12 months from the date of completion
12.	Liquidated Damaged	At the rate of 0.5% of the contract value per week of delay subject to a maximum 5% of the accepted contract value.
13.	Validity of offer	180 Days from the date of opening of tender
14.	Rates	<p>Rates quoted by the bidder shall remain firm throughout the contract period (including variations) taxes, duties, royalties, transportations, labour and other incidental charges, etc. PVA clause shall not be applicable.</p> <p>Rates are inclusive of all taxes except GST. GST shall be paid as applicable.</p>
15.	Payment Terms	<p>1st Running / Adhoc payment @ 20-25 % % of work progress assessment.</p> <p>2nd Running / Adhoc payment @ 40-50 % % of work progress assessment.</p> <p>3rd Running / Adhoc payment @ 70-75 % % of work progress assessment.</p> <p>Final payment will be made within 30 days from the date of joint verification of the bill by the Bank’s engineer/Architect and contractor.</p>

16.	Refund of Security Deposit	50% of the total security deposit deducted shall be refunded at a time of issuance of virtual completion certificate. The balance 50% would be paid after successful completion of the Defect Liability Period of 12 months.
17.	Working Schedule	Since the work has to be carried out in the stipulated time, the vendor may have to work accordingly.
18.	Insurance	The contractor shall obtain all necessary insurance policies as per the law applicable at the centre and shall be required to produce the original policies and receipts of the premium applicable in the matter to the Bank.
19.	Water & Electricity	Water and Electricity shall be provided by the Bank at one point, if available. However, further distribution and extension and light fixtures etc. with required MCB switches. Switch boards, lamp, tube etc. shall be arranged by the contractor at their own cost with the accepted tender cost.
20	For e-Tender related queries	Service Provider: M/s. E-Procure Technologies Limited. <u>Help Desk:</u> <i>(On working days 9 AM to 6 PM)</i> 079-68136840/20/59/63

In case the date of opening of tenders is declared as a holiday, the tender will be opened on the next working day at the same time.

SBIIMS has the right to accept/reject any/ all tenders without assigning any reasons.

VICE PRESIDENT, SBIIMS

MODE OF SUBMISSION OF TENDER:

The tender shall be submitted online as per procedure by the conducting agency. State Bank of India has the right to accept / reject any or all tenders without assigning any reasons.

Yours faithfully,

Signature of the Tenderer

VICE PRESIDENT, SBIIMS

INSTRUCTIONS TO THE TENDERERS

1.0 SCOPE OF WORK

ONLINE Sealed Tenders are invited by **SBI Infra Management Solutions Pvt. Limited**, for and on behalf of State bank of India for construction and allied work of SBI SME Branch in Balotra, Rajasthan.

1.1 SITE AND ITS LOCATION

The proposed work is to be carried out at SBI SME Branch, Industrial Estate, Balotra, Rajasthan.

2.0 Tender documents

2.1 The work has to be carried out strictly according to the conditions stipulated in the tender consisting of the following documents and the most workmen like manner.

- i) Instructions to Tenderers.
- ii) General Conditions of Contract
- iii) Special conditions of contract
- iv) Additional condition for electrical installation
- v) Technical specifications
- vi) Price bid
- vii) Drawings

2.2 The above documents shall be taken as complementary and mutually explanatory of one another but in case of ambiguities or discrepancies, shall take precedence in the order given below:

- i) Price bid
- ii) Additional condition for electrical installation
- iii) Technical specifications
- iv) Instructions to the tenderer
- v) Special Conditions of Contract
- vi) General Conditions of Contract

2.3 Complete set of tender documents including relative drawings can be downloaded from Bank's website www.sbi.co.in under procurement news.

2.4 Tender documents are not transferable.

3.0 SITE VISIT

3.1 The tenderer must obtain himself on his own responsibility and his own expenses all information and data which may be required for the purpose of filling this tender document and enter into a contract for the satisfactory performance of the work. The tenderer is requested satisfy himself regarding the availability of water, power, transport and communication facilities, the character quality and quantity of the materials labour, the law and order situation, climatic conditions local authorities requirements, traffic regulations, etc. The tenderer will be fully responsible for considering the financial effect of any or all the factors while submitting his tender.

4.0 EARNEST MONEY DEPOSIT

- 4.1 The tenderers are requested to submit the **Earnest Money of` 80,000/- (Rs. Eighty Thousand Only)** in the form of D.D, in favour of SBIIMS Pvt Ltd. payable at Jaipur.
- 4.2 EMD in any other form other than as specified above will not be accepted. Tender not accompanied by the EMD shall be rejected.
- 4.3 No interest will be paid on the EMD.
- 4.4 EMD of unsuccessful tenderers will be refunded within 30 days of award of Contract.
- 4.5 EMD of successful tenderer will be retained as a part of security deposit.

5.0 Initial Security Deposit

The successful tenderer will have to submit a sum equivalent to 2% of contract value less EMD by means of D/D drawn in favour of SBIIMS Jaipur within a period of 15 days of acceptance of tender.

6.0 Security Deposit

- 6.1 Total security deposit shall be 5% of contract value. Out of this 2% of contract value is in the form of initial security deposit which includes the EMD. Balance 3% shall be deducted from the running account bill of the work at the rate of 10% of the respective running account bill i.e. deduction from each running bill account will be 10% till total 3% of contract value is reached. 50% of the total security shall be paid to the contractors on the basis of architect's certifying the virtual completion. The balance 50% would be paid to the contractors after the defects liability period as specified in the contract.
- 6.2 No interest shall be paid to the amount retained by the Bank as Security Deposit.

7.0 Signing of Contract Documents :-

The successful tenderer shall be bound to implement the contract by signing an agreement and conditions of contract attached herewith within 15 days from the receipt of intimation of acceptance of his tender by the Bank. However, the written acceptance of the tender by the Bank will constitute a binding agreement between the Bank and successful tenderer whether such formal agreement is subsequently entered into or not.

8.0 Completion Period 270 days from the date of commencement.

- 9.0 Validity of Tender shall remain valid and open for acceptance for a period of 3 (Three) months from the date of opening price bid. If the tenderer withdraws his/her offer during the validity period or makes modifications in his/her original offer which are not acceptance to the Bank without prejudice to any other right or remedy the Bank shall be at liberty to forfeit the EMD.

10.0 Liquidated Damages

The liquidated damages shall be 0.5% per week subject to a maximum of 5% of contract value.

11.0 Rates and Prices

11.1 In case of item rate tender

11.1.1 The tenderers shall quote their rates for individual items both in words and figures in case of discrepancy between the rates quoted in words and figures the unit rate quoted in words will prevail. If no rate is quoted for a particular item the contractor shall not be paid for that item when it is executed. The amount of each item shall be calculated and the requisite total is given. In case of discrepancy between the unit rate and the total amount calculated from multiplication of unit rate and the quantity the unit rate quoted will govern and the amount will be corrected.

11.1.2 The tenderers need not quote their rates for which no quantities have been given. In case the tenderers quote their rates for such items those rates will be ignored and will not be considered during execution.

11.1.3 The tenderers should not change the units as specified in the tender. If any unit is changed the tenders would be evaluated as per the original unit and the contractor would be paid accordingly. The tenderer should not change or modify or delete the description of the item. If any discrepancy is observed he should immediately bring to the knowledge of the Architect/Bank.

11.1.4 Each page of the BOQ shall be signed by the authorized person and cutting or overwriting shall be duly attested by him.

11.1.5 Each page shall be totalled and the grand total shall be given.

11.1.6 The rate quoted shall be firm and shall include all costs, allowances, taxes, levies, etc. except GST. (GST will be paid extra as applicable)

- 12. All Tests required by the Architect / SBIIMS Engineer for the material being used by the contractor i.e. cement, sand and finishing product concrete, paint etc. shall be done by the contractor at his own cost as per laboratory approved by Architect/ SBIIMS as and when required.**

GENERAL CONDITIONS OF CONTRACT

1.0 Total Security Deposit

Total Security deposit comprise of:

Earnest Money Deposit

Initial Security Deposit

Retention Money

a) Earnest Money Deposit:

The tenderer shall furnish EMD of **80,000/- (Eighty thousand only)**.

No tender shall be considered unless the EMD is so deposited in the required form. No interest shall be paid on this EMD. The EMD of the unsuccessful tenderer shall be refunded soon after the decision to award the contract is taken without interest. The EMD shall stand absolutely forfeited if the tenderer revokes his tender at any time during the period when he is required to keep his tender open acceptance by the SBI or after it is accepted by the SBI the contractor fails to enter into a formal agreement or fails to pay the initial security deposit as stipulated or fails to commence the work within the stipulated time.

b) Initial Security Deposit (ISD)

The amount of ISD shall be 2% of accepted value of tender including the EMD. Balance of ISD (i.e. excluding EMD) is to be submitted in the form of D/D drawn on any scheduled Bank and shall be deposited within 15 days from the date of letter of acceptance of tender.

c) Retention Money

Besides the ISD as deposited by the contractor in the above said manner the retention money shall be deducted from the running account bill at the rate of 10% of the gross value of work done by the contractor and claimed in each bill provided the total security deposit i.e. the ISD plus Retention Money shall both together not exceed 5% of the contract value. 50% of the total security deposit shall be refunded to the contractor without any interest on issue of Virtual Completion certificate by the Architect/consultant. The balance 50% of the total security deposit shall be refunded to the contractors without interest within fifteen days after the end of defects liability period provided the contractor has satisfactorily attended to all defects in accordance with the conditions of contract including site clearance.

3.0 Language Errors, Omissions and Discrepancies

In case of errors, omissions and/or disagreement between written and scaled dimensions on the drawings or between the drawings and specifications etc. the following order shall apply.

- i) Between scaled and written dimension (or description) on a drawing, the latter shall be adopted.
- ii) Between the written or shown description or dimensions in the drawings and the corresponding one in the specification the former shall be taken as correct.
- iii) Between written description of the item in the specifications and descriptions in bills of Quantities of the same item, the latter shall be adopted.
- iv) In case of difference between rates written in figures and words, the rate in words shall prevail.
- v) Between the duplicate/subsequent copies of the tender, the original tender shall be taken as correct.

4.0 Scope of Work

The contractor shall carry out, complete and maintain the said work in every respect strictly in accordance with this contract and with the directions of and to the satisfaction of the

Bank to be communicated through the architect/consultant. The architect/consultant at the directions of the Bank from time to time issue further drawings and/or written instructions, details directions and explanations which are hereafter collectively referred to as Architect's/Consultant's instructions in regard to: the variation or modification of the design, quality or quantity of work or the addition or omission or substitution of any work, any discrepancy in the drawings or between the BOQ and/or drawings and/or specifications, the removal from the site of any material brought thereon by the contractor and the substitution of any other materials thereof, the demolition, removal and/or re-execution of any work executed by him, the dismissal from the work of any person employed/engaged there upon.

5.1 Letter of Acceptance

Within the validity period of the tender the Bank shall issue a letter of acceptance either directly or through the architect by registered post or otherwise depositing at the address of the contractor as given in the tender to enter into a Contract for the execution of the work as per the terms of the tender. The letter of acceptance shall constitute a binding contract between the SBI and the contractor.

5.2 Contract Agreement

On receipt of intimation of the acceptance of tender from the SBI/Architect the successful tenderer shall be bound to implement the contract and within fifteen days thereof he shall sign an agreement in a non-judicial stamp paper of appropriate value.

6.0 Ownership of drawings

All drawings, specifications and copies thereof furnished by the SBI through its Architect/consultants are the properties of the SBI. They are not to be used on other work.

7.0 Detailed drawings and instructions

The SBI through its architects/consultants shall furnish with reasonable promptness additional instructions by means of drawings or otherwise necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the contract documents, true developments thereof and reasonably inferable there from.

The work shall be executed in conformity therewith and the contractor prepare a detailed programme schedule indicating therein the date of start and completion of various activities on receipt of the work order and submit the same to the SBI through the Architect/Consultant.

Copies of Agreement

Two copies of agreement/tender document duly signed by both the parties with the drawings shall be handed over to the contractors.

8.0 Liquidated Damages

If the contractor fails to maintain the required progress in terms of clause 30 of GCC or to complete the work and clear the site including vacating their office on or before the contracted or extended date or completion without justification in support of the cause of delay, he may be called upon without prejudice to any other right of remedy available under the law to the SBI on account of such breach to pay a liquidated damages at the rate of 0.5% of the contract value per week subject to a maximum of 5% of the contract value.

9.0 Materials, Appliances and Employees

Unless or otherwise specified the contractor shall provide and pay for all materials, labour, water, power, tools, equipment transportation and any other facilities that are required for the satisfactory execution and completion of the work. Unless or otherwise specified all materials shall be new and both workmanship and materials shall be best quality. The contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him. Workman whose work or behaviour is found to be unsatisfactory by the SBI/Architect/Consultant he shall be removed from the site immediately.

10.0 Permits, Laws and Regulations

Permits and licenses required for the execution of the work shall be obtained by the contractor at his own expenses.

The contractor shall give notices and comply with the regulations, laws, and ordinances rules, applicable to the contractor. If the contractor observes any discrepancy between the drawings and specifications, he shall promptly notify the SBI in writing under intimation of the Architect/Consultant. If the contractor performs any act which is against the law, rules and regulations he shall meet all the costs arising there from and shall indemnify the SBI any legal actions arising there from.

11.0 Setting out Work

The contractor shall set out the work and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof and get it approved by the architect/consultant before proceeding with the work. If at any time any error in this respect shall appear during the progress of the works, irrespective of the fact that the layout had been approved by the architect/consultant the contractor shall be responsible for the same and shall at his own expenses rectify such error, if so, required to satisfaction of the SBI.

12.0 Protection of works and property

The contractor shall continuously maintain adequate protection, of all his work from damage and shall protect the SBI's properties from injury or loss arising in connection with contract. He shall make good any such damage, injury, loss due to his fault or negligence except which are due to causes beyond his control.

He shall take adequate care and steps for protection of the adjacent properties. The contractor shall take all precautions for safety and protection of his employees on the works and shall comply with all applicable provisions of Government and local bodies' safety laws and building codes to prevent accidents, or injuries to persons or property of about or adjacent to his place of work. The contractor shall take insurance covers as per clause 24.0 at his own cost. The policy may be taken in joint names of the contractors and the SBI and the original policy may be lodged with the SBI.

13.0 Inspection of Work

The SBI/Architect/Consultant or their representatives shall at all reasonable time have free access to the work site and/or to the workshop, factories or other places where materials are lying or from where they are obtained and the contractor shall give every facility to the SBI, Architect/Consultant and their representatives necessary for inspection and examination and test of the materials and workmanship. No person unless authorized by the SBI/Architect/Consultant except the representative of Public authorities shall be allowed on the work at any time. The proposed work either during its construction stage or its completion can also be inspected by the Chief Technical Examiner's organization a wing of Central Vigilance Commission

14.0 Assignment and subletting

The whole of work included in the contract shall be executed by the contractor and he shall not directly entrust and engage or indirectly transfer assign or underlet the contract or any part or share thereof or interest therein without the written consent of the SBI through the architect and no undertaken shall relieve the contractor from the responsibility of the contractor from active superintendence of the work during its progress.

15.0 Quality of Materials, Workmanship & Test

(i) All materials and workmanship shall be best of the respective kinds described in the contract and in accordance with Architect/Consultant instructions and shall be subject from time to time to such tests as the architect/consultant may direct at the place of manufacture or fabrication or on the site or an approved testing laboratory. The contractor shall provide such assistance, instruments, machinery, labour and materials

(ii) Samples

All samples of adequate numbers, size, shades & pattern as per specifications shall be supplied by the contractor without any extra charges. If certain items proposed to be used are of such nature that samples cannot be presented or prepared at the site detailed literature/test certificate of the same shall be provided to the satisfaction of the Architect/ consultant. Before submitting the sample/literature the contractor shall satisfy himself that the material/equipment for which he is submitting the samples/literature meet with the requirement of tender specification. Only when the samples are approved in writing by the architect/consultant the contractor shall proceed with the procurement and installation of the particular material/equipment. The approved samples shall be signed by the Architect/Consultant for identification and shall be kept on record at site office until the completion of the work for inspection/comparison at any time. The Architect/Consultant shall take reasonable time to approve the sample. Any delay that might occur in approving the samples for reasons of its not meeting the specifications or other discrepancies inadequacy in furnishing samples of best qualities from various manufacturers and such other aspects causing delay on the approval of the materials/equipment's etc. shall be to the account of the contractor.

(iii) Cost of tests

The cost of making any test shall be borne by the contractor if such test is intended by or provided for in the specifications or BOQ.

(iv) Cost of test not provided for

If any test is ordered by the Architect/ Consultant which is either:

(a) If so intended by or provided for or (in the cases above mentioned) is not so particularized or through so intended or provided for but ordered by the Architect/Consultant which is either to be carried out by an independent person at any place other than the site or the place of manufacture or fabrication of the materials tested or any Government/approved laboratory, then the cost of such test shall be borne by the contractor.

16.0 Obtaining Information related to execution of work

No claim by the contractor for additional payment shall be entertained which is consequent upon failure on his part to obtain correct information as to any matter affecting the execution of the work nor any misunderstanding or the obtaining incorrect information or the failure to obtain correct information relieve him from any risks or from the entire responsibility for the fulfilment of contract.

17.0 Contractor's superintendence

The contractor shall give necessary personal superintendence during the execution of the works and as long, thereafter, as the Architect/consultant may consider necessary until the expiry of the defects liability period, stated here to.

18.0 Quantities

i) The bill of quantities (BOQ) unless or otherwise stated shall be deemed to have been prepared in accordance with the Indian Standard Method of Measurements.

The rate quoted shall remain valid for variation of quantity against individual item to any extent subject to maximum variation of the contract value by 25%. The entire amount paid under Clause 20 hereof as well as amounts of prime cost and provisional sums, if any, shall be excluded.

ii) Variation exceeding 25%: The items of work executed in relation to variation exceeding 25% shall be paid on the basis of provisions of clause 22(e) hereof.

19.0 Works to be measured

The Architect/Consultant may from time to time intimate to the contractor that he required the work to be measured and the contractor shall forthwith attend or send a qualified

representative to assist the Architect in taking such measurements and calculation and to furnish all particulars or to give all assistance required by any of them. Such measurements shall be taken in accordance with the Mode of measurements detailed in the specifications. The representative of the Architect/Consultant shall take joint measurements with the contractor's representative and the measurements shall be entered in the measurement book. The contractor or his authorized representative shall sign all the pages of the measurement book in which the measurements have been recorded in token of his acceptance. All the corrections shall be duly attested by both representatives. No over writings shall be made in the M book. Should the contractor not attend or neglect or omit to depute his representative to take measurements then the measurements recorded by the representative of the Architect/consultant shall be final. All authorized extra work, omissions and all variations made shall be included in such measurements.

20.0 Variations

No alteration, omission or variation ordered in writing by the Architect/Consultant shall vitiate the contract.

In case the SBI/Architect/Consultant thinks proper at any time during the progress of works to make any alteration in, or additions to or omission from the works or any alteration in the kind or quality of the materials to be used therein, the Architect/Consultant shall give notice thereof in writing to the contractor or shall confirm in writing within seven days of giving such oral instructions the contractor shall alter to, add to, or omit from as the case may be in accordance with such notice but the contractor shall not do any extra work or make any alterations or additions or omissions from the works or any deviation from any of the provisions of the contract, stipulations, specifications or contract drawings without previous consent in writing of the Architect/Consultant and the value of such extras, alterations, additions or omissions shall in all cases be determined by the Architect/Consultant and the same shall be added to or deducted from the contract value, as the case maybe.

21.0 Valuation of Variations

No claim for an extra shall be allowed unless it shall have been executed under the authority of the Architect/Consultant with the concurrence of the SBI as herein mentioned. Any such extra is herein referred to as authorized extra and shall be made in accordance with the following provisions.

- a) i) The net rates or prices in the contract shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced herein.
- ii) Rates for all items, wherever possible should be derived out of the rates given in the priced BOQ.
- b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions do not vary the conditions under which any remaining items of works are carried out, otherwise the prices for the same shall be valued under sub clause (c) hereunder.
- c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items or works are carried out, then the contractor shall within 7 days of the receipt of the letter of acceptance inform the Architect/Consultant of the rate which he intends to charge for such items of work, duly supported by analysis of the rate or rates claimed and the Architect/Consultant shall fix such rate or prices as in the circumstances in his opinion are reasonable and proper, based on the market rate.

d) Where extra work cannot be properly measured or valued the contractor shall be allowed day work prices at the net rates stated in the tender of the BOQ or, if not, so stated then in accordance with the local day work rates and wages for the district; provided that in either case, vouchers specifying the daily time (and if required by the Architect/Consultant) the workman's name and materials employed be delivered for verifications to the Architect/Consultant at or before the end of the week following that in which the work has been executed.

e) It is further clarified that for all such authorized extra items where rates cannot be derived from the tender, the contractor shall submit rates duly supported by rate analysis worked on the "market rate basis" for material, labour, hire/running charges of equipment and wastages etc plus 15% towards establishment charges, contractor's overheads and profit. Such items shall not be eligible for escalation.

22.0 Final Measurement

The measurement and valuation in respect of the contract shall be completed within six months of the virtual completion of the work.

23.0 Virtual Completion Certificate (VCC)

On successful completion of entire works covered by the contract to the full satisfaction of the SBI, the contractor shall ensure that the following works have been completed to the satisfaction of the SBI.

- a) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor's labour, equipment and machinery.
- b) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor's labour, equipment and machinery.
- c) Clear the site of all scaffolding, wiring, pipes, surplus materials, contractor's labour, equipment and machinery.
- d) Demolish, dismantle and remove the contractor's site office, temporary works, structures including labour sheds/camps and constructions and other items and things whatsoever brought upon or erected at the site or any land allotted to the contractor by the SBI and not incorporated in the permanent works.
- e) Remove all rubbish, debris etc. from the site and the land allotted to the contractor by the SBI and shall clear, level and dress, compact the site as required by the SBI.
- f) Shall put the SBI in undisputed custody and possession of the site and all land allotted by the SBI.
- g) Shall hand over the work in a peaceful manner to the SBI.
- h) All defects/imperfections have been attended and rectified as pointed out by the SBI to the full satisfaction of SBI.

Upon the satisfactory fulfilment by the contractor as stated above, the contractor shall be entitled to apply to the Architect/Consultant for the certificate. If the Architect/Consultant is satisfied of the completion of the work, relative to which the completion certificate has been sought, the Architect/Consultant shall within fourteen (14) days of the receipt of the application for virtual completion certificate, issue a VCC in respect of the work for which the VCC has been applied.

This issuance of a VCC shall be without prejudice to the SBI's rights and contractor's liabilities under the contract including the contractor's liability for defects liability period nor shall the issuance of VCC in respect of the works or work at any site be construed as a waiver of any right or claim of the SBI against the contractor in respect of works or work at the site and in respect of which the VCC has been issued.

24.0 Work by other agencies

The SBI/Architect/Consultant reserves the rights to use premises and any portion of the site for execution of any work not included in the scope of this contract which it may desire to have carried out by other persons simultaneously and the contractor shall not only allow but also extend reasonable facilities for the execution of such work. The contractor however shall not be required to provide any plant or material for the execution of such work except by special arrangement with the SBI. Such work shall be carried out in such manners not to impede the progress of the works included in the contract.

25.0 Insurance of Works

25.1 Without limiting his obligations and responsibilities under the contract the contractor shall insure in the joint names of the SBI and the contractor against all loss or damages from whatever cause arising other than the excepted risks, for which he is responsible under the terms of contract and in such a manner that the SBI and contractor are covered for the period stipulated in clause 28 of GCC and are also covered during the period of maintenance for loss or damage arising from a cause, occurring prior to the commencement of the period of maintenance and for any loss or damage occasioned by the contractor in the course of any operations carried out by him for the purpose of complying with his obligations under clause.

- a) The works for the time being executed to the estimated current Contract value thereof, or such additional sum as may be specified together with the materials for incorporation in the works at their replacement value.
- b) The constructional plant and other things brought on to the site by the contractor to the replacement value of such constructional plant and other things.
- c) Such insurance shall be effected with an insurer and in terms approved by the SBI which approval shall not be unreasonably withheld and the contractor shall whenever required produce to the Architect/Consultant the policy of insurance and the receipts for payment of the current premiums.

25.2 Damage to persons and property

The contractor shall, except if and so far as the contract provides otherwise indemnify the SBI against all losses and claims in respect of injuries or damages to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and maintenance of the works and against all claims proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation of damages for or with respect to :

- a) The permanent use or occupation of land by or any part thereof.
- b) The right of SBI to execute the works or any part thereof, on, over, under, in or through any lands.
- c) Injuries or damages to persons or properties which are unavoidable result of the execution or maintenance of the works in accordance with the contract.
- d) Injuries or damage to persons or property resulting from any act or neglect of the SBI, their agents, employees or other contractors not being employed by the contractor or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the SBI, their

employees, or agents or other employees, or agents or other contractors for the damage or injury.

25.3 Contractor to indemnify SBI

The contractor shall indemnify the SBI against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the provision sub-clause 26.2 of this clause.

25.4 Contractor's superintendence

The contractor shall fully indemnify and keep indemnified the SBI against any action, claim, or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claim made under or action brought against SBI in respect of such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expenses to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the SBI if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Architect/Consultant in this behalf.

25.5 Third Party Insurance

25.5.1 Before commencing the execution of the work the contractor but without limiting his obligations and responsibilities under clause 26.0 of GCC shall insure against his liability for any material or physical damage, loss, or injury which may occur to any property including that of SBI, or to any person, including any employee of the SBI, by or arising out of the execution of the works or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to clause 26.0 thereof.

25.5.2 Minimum Amount of Third Party Insurance

Such insurance shall be effected with an insurer and in terms approved by the SBI which approval shall not be reasonably withheld and for at least the amount stated below. The contractor shall, whenever required, produce to the Architect/Consultant the policy or policies of insurance cover and receipts for payment of the current premiums.

25.6 The minimum insurance cover for physical property, injury, and death is Rs.5.0 lacs per occurrence with the number of occurrences limited to four. After each occurrence contractor will pay additional premium necessary to make insurance valid for four occurrences always.

25.7 Accident or Injury to Workmen

25.7.1 The SBI shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workmen or other person in the employment of the contractor or any sub-contractor, save and except an accident or injury resulting from any act or default of the SBI or their agents, or employees. The contractor shall indemnify and keep indemnified SBI against all such damages and compensation, save and except as aforesaid and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

25.7.2 Insurance against accidents etc. to workmen

The contractor shall insure against such liability with an insurer approved by the SBI during the whole of the time any person employed by him on the works and shall, when required, produce to the architect/consultant such policy of insurance and receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor the contractor's obligation to insure as aforesaid under this sub-clause shall be satisfied if the sub-contractor shall have insured against the liability in respect of such persons in such manner that SBI is indemnified under the policy but the contractor shall

require such sub-contractor to produce to the Architect/Consultant when required such policy of insurance and the receipt for the payment of the current premium.

25.7.3 Remedy on Contractor's failure to insure

If the contractor fails to effect and keep in force the insurance referred to above or any other insurance which he may be required to effect under the terms of contract, then and in any such case the SBI may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the SBI as aforesaid and also deduct 15% of contract value from any amount due or which may become due to the contractor, or recover the same as debt from the contractor.

25.7.4 Without prejudice to the other rights of the SBI against contractors, in respect of such default, the Bank shall be entitled to deduct from any sums payable to the contractor the amount of any damages costs, charges, and other expenses paid by the SBI and which are payable by the contractors under this clause. The contractor shall upon settlement by the insurer of any claim made against the insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event all the monies received from the insurer in respect of such damage shall be paid to the contractor and the contractor shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged.

26.0 Commencement of Works

The date of commencement of the work will be reckoned as the recorded date of handing over site by the SBI or 15 days from the date of issue of Letter of Acceptance of Bank, whichever is later.

27.0 Time for completion

Time is the essence of the contract and shall be strictly observed by the contractor. The entire work shall be completed within a period of **270 days** from the date of commencement. If required in the contract or as directed by the Architect/Consultant, the contractor shall complete certain portions of work before completion of the entire work. However the completion date shall be reckoned as the date by which the whole work is completed as per the terms of the contract.

28.0 Extension of Time

If, in the opinion of the Architect/Consultant, the work be delayed for reasons beyond the control of the contractor, the Architect/Consultant may submit a recommendation to the SBIIMS to grant a fair and reasonable extension of time for completion of work as per the terms of contract. If the contractor needs an extension of time for the completion of work or if the completion of work is likely to be delayed for any reasons beyond the due date of completion as stipulated in the contract, the contractor shall apply to the SBIIMS through the Architect/Consultant in writing at least 30 days before the expiry of the scheduled time and while applying for extension of time he shall furnish the reasons in detail and his justification if any, for the delays. The architect/consultant shall submit their recommendations to the SBIIMS in the prescribed format for granting extension of time. While granting extension of time the contractor shall be informed the period extended time which will qualify for levy of liquidated damages. For the balance period in excess of original stipulated period and duly sanctioned extension of time by the SBI the provision of liquidated damages as stated under clause 9 of GCC shall become applicable. Further contract shall remain in force even for the period beyond the due date of completion irrespective whether the extension is granted or not.

29.0 Rate of progress

Whole of the materials, plant and labour to be provided by the contractor and the mode, manner and speed of execution and maintenance of the works are to be of a kind and

conducted in a manner to the satisfaction of the Architect/Consultant. Should the rate of progress of the work or any part thereof be at any time be in the opinion of the Architect/Consultant too slow to ensure the completion of the whole of the work by the prescribed time or extended time for completion the Architect/Consultant shall thereupon take such steps as considered necessary by the Architect/Consultant to expedite progress so as to complete the works by the prescribed time or extended time. Such communications from the Architect/Consultant neither shall relieve the contractor from fulfilling obligations under the contract nor shall he be entitled to raise any claims arising out of such directions.

30.0 Work during nights and holidays

Subject to any provision to the contrary contained in the contract no permanent work shall save as herein provided be carried on during the night or on holidays without the permission in writing of the Architect/Bank, save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the work in which case the contractor shall immediately advise the Architect/Bank. However the provision of the clause shall not be applicable in the case of any work which becomes essential to carry by rotary or double shifts in order to achieve the progress and quality of the part of the works being technically required and continued with the prior approval of the Architect/consultant at no extra cost to the SBI.

All work at night after obtaining approval from competent authorities shall be carried out without unreasonable noise and disturbance.

31.0 No compensation for restrictions of work

If at any time after acceptance of the tender SBI shall decide to abandon or reduce the scope of work for any reason whatsoever and hence not require the whole or any part of the work to be carried out, the Architect/Consultant shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the work fully but which he did not derive in consequence of the foreclosure of the whole or part of the work. Provided that the contractor shall be paid the charges on the cartage only of materials actually and bona fide brought to the site of the work by the contractor and rendered surplus as a result of the abandonment, curtailment of the work or any portion thereof and then taken back by the contractor, provided however that the Architect/Consultant shall have in such cases the option of taking over all or any such materials at their purchase price or a local current rate whichever is less.

In case of such stores having been issued from SBI stores and returned by the contractor to stores, credit shall be given to him at the rates not exceeding those at which were originally issued to the contractor after taking into consideration and deduction for claims on account of any deterioration or damage while in the custody of the contractor and in this respect the decision of Architect/Consultant shall be final.

32.0 Suspension of work

i) The contractor shall, on receipt of the order in writing of the Architect/Consultant (whose decision shall be final and binding on the contractor) suspend the progress of works or any part thereof for such time and in such manner as Architect/Consultant may consider necessary so as not cause any damage or injury to the work already done or endanger the safety thereof for any of following reasons.

- a) On account any default on the part of the contractor,
- b) For proper execution of the works or part thereof for reasons other than the default of the contractor,

c) 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 Architect/Consultant.

ii) If the suspension is ordered for reasons (b) and (c) in sub-Para (i) above : The contractor shall be entitled to an extension of time equal to the period of every such suspension. No compensation whatsoever shall be paid on this account.

33.0 Action when the whole security deposit is forfeited

In any case in which under any clause or clauses of this contract, the Contractor shall have rendered himself liable to pay compensation amounting to the whole of his security deposit the Architect/Consultant shall have the power to adopt any of the following course as they may deem best suited to the interest of the SBI/ SBIIMS.

a) To rescind the contract (of which rescission notice in writing to the contractor by the Architect/Consultant shall be conclusive evidence) and in which case the security deposit of the contractor shall be forfeited and be absolutely at the disposal of SBI.

b) To employ labour paid by the SBI 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 materials (the cost of such labour and materials as worked out by the Architect/ Consultant 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 manner and at the same rates as if it had been carried out by the contractor under the terms of this contract the certificate of Architect/Consultant as to the value of work done shall be final and conclusive against the contractor.

c) To measure up the work of the contractor, and to take such part thereof as shall be unexecuted, out of his hands, and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor, if the whole work had been executed by him (of the amount of which excess the certificates in writing of the Architects/ Consultant shall be final and conclusive) shall be borne by original contractor and may be deducted from any money due to him by SBI under the contract or otherwise, or from his security deposit or the proceeds of sale thereof, or sufficient part thereof.

In the event of any of above courses being adopted by the SBI the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any material or entered into any engagements or make any advances on account of, or with a view to the execution of the work or the performance of the contract and in case the contract shall be rescinded under the provision aforesaid, the contractor shall not be entitled to recover or to be paid any sum or any work thereto for actually performed under this contract, unless, and until the Architect/Consultant will have 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.

34.0 Owner's Right to Terminate the Contract

If the contractor being an individual or a firm commit any „Act of Insolvency“ or shall be adjusted an insolvent or being an incorporated company shall have an order for compulsory winding up voluntarily or subject to the supervision of Government and of the Official Assignee of the liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him to do so, to show to the reasonable satisfaction of the Architect/Consultant that he is able to carry out and fulfil the contract, and to give security therefore if so required by the Architect/Consultant

Or if the contractor (whether an individual firm or incorporated Company) shall suffer execution to be issued or shall suffer any payment under this contract to be attached by or on behalf of any of the creditors of the contractor.

Or shall assign or sublet this contract without the consent in writing of the SBI through the Architect/Consultant or shall charge or encumber this contract or any payment due to which may become due to the contractor thereunder.

- a) Has abandoned the contract; or
- b) Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for 14 days after receiving from the SBI through the Architect/Consultant written notice to proceed, or
- c) Has failed to proceed with the works with such diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or has failed to remove the materials from the site or to pull down and replace work within seven days after written notice from the SBI through the Architect/ Consultant that the said materials were condemned and rejected by the Architect/ Consultant under these conditions; or has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this contract to be observed and performed by the contractor for seven days after written notice shall have been given to the contractor to observe or perform the same or has to the detriment of good workmanship or in defiance of the SBI's or Architect's/Consultant's instructions to the contrary subject any part of the contract. Then and in any of said cases the SBI and or the Architect/Consultant, may not withstanding any previous waiver, after giving seven days-notice in writing to the contractor, determine the contract, but without thereby affecting the powers of the SBI or the Architect/Consultant or the obligation and liabilities of the contractor the whole of which shall continue in force as fully as if the contract had not been so determined and as if the works subsequently had been executed by or on behalf of the contractor. And, further the SBI through the Architect/Consultant, their agents or employees may enter upon and take possession of the work and all plants, tools, scaffoldings, materials, sheds, machineries lying upon the premises or on the adjoining lands or roads, use the same by means of their own employees or workmen in carrying on and completing the work or by engaging any other contractors or persons to complete the work and the contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other contractor or other persons employed for completing and finishing or using the materials and plant for the works.

When the works shall be completed or as soon thereafter as convenient the SBI or the Architect/Consultant shall give a notice in writing to the contractor to remove his surplus materials and plants and should the contractor fail to do so within 14 days after receipt thereof by him the SBI sell the same by public auction after due publication and shall adjust the amount realized by such auction. The contractor shall have no right to question any of the act of the SBI incidental to the sale of the materials etc.

35.0 Certificate of Payment

The contractor shall be entitled under the certificates to be issued by the Architect/ Consultant to the contractor within 10 working days from the date of certificate to the payment from SBI from time to time. The SBI shall recover the statutory recoveries and other dues including the retention amount from the certificate of payment.

Provided always that the issue of any certificate by the Architect/Consultant during the progress of works or completion shall not have effect as certificate of satisfaction or relieve the contractor from his liability under clause.

The Architect/Consultant shall have power to withhold the certificate if the work or any part thereof is not carried out to their satisfaction.

The Architect/Consultant may by any certificate make any corrections required in previous certificate.

The SBI shall modify the certificate of payment as issued by the Architect/Consultant from time to time while making the payment. The contractor shall submit interim bills only after taking actual measurements and properly recorded in the Measurement book (M.B). The contractor shall not submit interim bills when the approximate value of work done by him is less than **50% of the tender amount**, and the minimum interval between two such bills shall be 20 Days.

The final bill may be submitted by contractor within a period of one month from the date of virtual completion and Architect/Consultant shall issue the certificate of payment within a period of two months. The SBI shall pay the amount within a period.

The final bill may be submitted by contractor within a period of one month from the date of virtual completion and Architect/Consultant shall issue the certificate of payment within a period of two months. The SBI shall pay the amount within a period of three months from the date of issue of certificate provided there is no dispute in respect of rates and quantities. The contractor shall submit the interim bills in the prescribed format with all details.

36.0 Settlement of Disputes and Arbitration

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the work or the execution or failure to execute the same, whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter :

i) If the contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the Architect or in case the contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the Contractor shall forthwith give notice in writing of his claim, or dispute to VICE PRESIDENT SBIIMS, Jaipur and endorse a copy of the same to the Architect, within 30 days from the date of disallowance thereof or the date of deduction or recovery. The said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and

the contractor shall not be entitled to raise any claim nor shall the Bank be in any way liable in respect of any claim by the contractor unless notice of such claim shall have been given by the contractor to VICE PRESIDENT SBIIMS, Jaipur in the manner and within the time as aforesaid. The contractor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the VICE PRESIDENT SBIIMS, Jaipur in writing in the manner and within the time aforesaid.

ii) VICE PRESIDENT SBIIMS, Jaipur shall give his decision in writing on the claims notified by the contractor. The contractor may within 30 days of the receipt of the decision of VICE PRESIDENT SBIIMS, Jaipur submit his claims to the conciliating authority namely the COO, SBIIMS Mumbai for conciliation along with all details and copies of correspondence exchanged between him and VICE PRESIDENT SBIIMS, Jaipur

iii) If the conciliation proceedings are terminated without settlement of the disputes, the contractor shall, within a period of 30 days of termination thereof shall give a notice to the concerned Chief General Manager/Dy. Managing Director & Corporate Development Officer of the Bank for appointment of an arbitrator to adjudicate the notified claims failing which the claims of the contractor shall be deemed to have been considered absolutely barred and waived.

iv) Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the contractor as aforesaid and all claims of the Bank shall be referred for adjudication through arbitration by the Sole Arbitrator appointed by the Chief General Manager/Dy. Managing Director & Corporate Development Officer. It will also be no objection to any such appointment that the Arbitrator so appointed is a Bank Officer and that he had to deal with the matters to which the Contract relates in the course of his duties as Bank Officer. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be appointed in the manner aforesaid by the said Chief General Manager/Dy. Managing Director & Corporate Development Officer. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute along with the notice for appointment of arbitrator.

It is also a term of this contract that no person other than a person appointed by such Chief General Manager aforesaid should act as arbitrator.

The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made there under.

It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties. However, no fees will be payable to the arbitrator if he is a Bank Officer.

It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.

37.0 water supply

The contractor shall make his own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions:

i) That the water used by the Contractor shall be fit for construction purpose to the satisfaction of the Architect/Consultant.

ii) The Contractor shall make alternative arrangements for the supply of water if the arrangements made by the Contractor for procurement of water in the opinion of the Architect/Consultant is unsatisfactory.

iii) Test certificate for the suitability of water for construction to be submitted by the contractor as and when required by Architect/ SBIIMS/ Bank.

37.1 The Contractor shall construct temporary well/tube well in SBI land for taking water for construction purposes only after obtaining permission in writing from the SBI. The contractor has to make his own arrangements for drawing and distributing the water at his own cost. He has to make necessary arrangements. To avoid any accidents or damages caused due to construction and subsequent maintenance of the wells. He has to obtain necessary approvals from the local authorities, if required at his own cost. He shall restore the ground to its original condition after wells are dismantled on completion of work or hand over the well to the SBI without any compensation as directed by the Architect/Consultant.

38.0 Power supply

The contractor shall make his own arrangements for power and supply/distribution system for driving plant or machinery for the work and for lighting purpose at his own cost. The cost of running and maintenance of the plants are to be included in his tender prices. He shall pay all fees and charges required for the power supply and include the same in his tendered rates and hold the owner free from all such costs. He has to obtain necessary approvals from the appropriate authorities, if required.

39.0 Treasure Trove etc.

Any treasure trove, coin or object antique which may be found on the site shall be the property of SBI and shall be handed over to the Bank immediately.

40.0 Method of Measurement

Unless otherwise mentioned in the schedule of quantities or in mode of measurement, the measurement will be on the net quantities or work produced in accordance with up to date. Rules laid down by the Bureau of Indian Standards. In the event any dispute/disagreement the decision of the Architect/Bank shall be final and binding on the contractor.

41.0 Maintenance of Registers

The contractor shall maintain the following registers as per the enclosed format at site of work and should produce the same for inspection of SBI/Architect/Consultant whenever desired by them. The contractor shall also maintain the records/registers as required by the local authorities/Government from time to time.

- i) Register for secured advance
- ii) Register for hindrance to work
- iii) Register for running account bill
- iv) Register for labour

42.0 Force Majeure

42.1 Neither contractor nor SBI shall be considered in default in performance of their obligations if such performance is prevented or delayed by events such as war, hostilities, revolution, riots, civil commotion, strikes, lockout, conflagrations, epidemics, accidents, fire, storms, floods, droughts, earthquakes or ordinances or any act of god or for any other cause beyond the reasonable control of the party affected or prevented or delayed. However a notice is required to be given within 30 days from the happening of the event with complete details, to the other party to the contract, if it is not possible to serve a notice, within the shortest possible period without delay.

42.2 As soon as the cause of force majeure has been removed the party whose ability to perform its obligations has been affected, shall notify the other of such cessation and the

actual delay incurred in such affected activity adducing necessary evidence in support thereof.

42.3 From the date of occurrence of a case of force majeure obligations of the party affected shall be suspended during the continuance of any inability so caused. With the cause itself and inability resulting there from having been removed, the agreed time of completion of the respective obligations under this agreement shall stand extended by a period equal to the period of delay occasioned by such events.

42.4 Should one or both parties be prevented from fulfilling the contractual obligations by a state of force majeure lasting to a period of 6 months or more the two parties shall mutually decide regarding the future execution of this agreement.

43.0 Local Laws, Acts, Regulations

The contractor shall strictly adhere to all prevailing labour laws inclusive of contract labour (regulation and abolition act of 1970) and other safety regulations. The contractor shall comply with the provision of all labour legislation including the latest Requirements of all the Acts, laws, any other regulations that are applicable to the execution of the project.

1. Minimum Wages Act, 1948 (Amended)
2. Payment of Wages Act 1936(Amended)
3. Workmen's Compensation Act 1923 (Amended)
4. Contract Labour Regulation and Abolition Act 1970 and Central Rules 1971 (Amended)
5. Apprentice Act 1961(Amended)
6. Industrial Employment (Standing Order) Act 1946(Amended)
7. Personal Injuries (Compensation Insurance) Act 1963 and any other modifications
8. Employees' Provident Fund and Miscellaneous Provisions Act 1952 and amendment thereof
9. Shop and Establishment Act
10. Any other Act or enactment relating thereto and rules framed there under from time to time.

44.0 SAFETY CODE

SAFETY MEASURES AT SITE:

1. All personnel at site should be provided with Helmets and Safety Boots with some Identification Mark. Visitors also should be provided with Helmets. It should be ensured that these are used properly.
2. First Aid Box should be kept at site with all requisite materials.
3. No one should be allowed to inspect / work at a height without Safety Belt.
4. 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 as suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
5. Scaffolding or staging more than 3.5 meters above the ground or floors, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 Meter high above the floor or platform of such scaffolding or staging and extending along the entire

length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

6. Working platforms, Gangways, and Stairways should be so constructed that they do not sag unduly or unequally, and if the height of the platform or the Gangway or the Stairway is more than 3-5 Meters above ground level or floor level they should be closely boarded, should have adequate width and should be suitably fenced, as described.

7. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 Meter.

8. 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 9 Meters in length while the width between side rails in rung ladder shall in no case be less than 30 cms for ladder up to and including Meters in length. For longer ladders this width should be increased at least 6mm for each additional 30cms. Uniform step spacing shall not exceed 30cms.

9. Adequate precautions shall be taken to prevent danger from electrical equipment's. For electrical on line works gloves, rubber mats, and rubber shoes shall be used.

10. All trenches 1.2 Meters or more in depth shall at all times be supplied with at least one ladder for each 30 Meters length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1 Meter above the surface of the ground. The sides of the trenches, which are 1.5 Meters or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 Meters of the edge of the trench or half of the depth of the trench whichever is more cuttings shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.

11. Before any demolition work is commenced and also during the process of the work:-

- a) All roads and open areas adjacent to the Work Site shall either be closed or suitably protected;
- b) No electrical cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
- c) 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 so overloaded with debris or materials as to render it unsafe.
- d) All necessary personal safety equipment as considered adequate by the Site Engineer should be kept available for the use of the persons employed on the Site and maintained in a condition suitable for immediate use; and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.
- e) Workers employed on mixing Asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- f) Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.

g) Those engaged in welding works shall be provided with Welder's protective eye-shields.

h) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

i) When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and are 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 and boards to prevent accident to the Public.

12. Use of hoisting machines and tackle including their attachments, anchorage and support shall conform to the following standard or conditions:-

a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defect and shall be kept in good repairs and in good working order.

b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

c) 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 scaffold, winch or give signals to the operator.

d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate means.

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

f) Motor, Gearing, Transmission, Electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards, 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 to the minimum the risk of any part of a suspended load becoming accidentally displaced.

g) When workers are employed on electrical installation, which are already energized, insulating mats, wearing apparel such as gloves, sleeves, and boots as may be necessary should be provided. The workers should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.

13. All scaffolds, 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 shall be provided at or near places of work.

45.0 Accidents

The contractor shall immediately on occurrence of any accident at or about the site or in connection with the execution of the work report such accident to the Architect/Consultant.

The contractor shall also report immediately to the competent authority whenever such report is required to be lodged by the law and take appropriate actions there of.

46. Storage of materials:

The contractor shall not store their materials and debris within the premises other than the work site handed over to him.

47. Shelter or stay for the labour ershas to be arranged by the contractor at his own expense &responsibility.

48. The rates quoted shall be for complete work at site and inclusive of all taxes (except GST as GST extra as applicable) or any other Government levies if applicable, E.S.I. charges, Octroi, Royalties, Cartage etc. or any other tax as applicable during the course of execution of works as applicable by State government or Central Government or as per direction of the Government. The rates shall be firm and shall not be subject to cost other condition whatsoever. All taxes shall be deducted at source as per Government norms. Nothing extra including Escalation shall be payable by the Bank.

49. The Quantities taken in schedule are only for guide. It may increase or decrease or deleted & payment shall be made on the basis of actual measurement/quantities executed on site, which to be measured jointly with the Architect and contractor. In absence of contractor for joint measurement, the quantity measured by the Architect/Bank's Engineer will be final & binding upon you.

50. The STATE BANK OF INDIA does not bind itself to accept the lowest or any tender, or to assign any reason thereof and also reserves the right of accepting the whole or part of the tender and the tenderer shall in such an event is bound to perform the contract at the same rates quoted in the tender for the various items of the work.

51. At any point of time Bank may cancel competitive tenders if it is found that rates thus arrived are on higher side/extreme lower side or delete a part of it as required by bank. It will be sole discretion of Bank to decide and allocate works to respective contractor as per his past performance or even he may be debarred from the forthcoming tender/tenders; against this decision no challenge will be entertained by Bank.

52. Time is the essence of the contract and the tenderer are required to complete the work in all respects within the stipulated time of completion and hand over the same, complete in all respect to the satisfaction of the Bank and if the contractor fails to complete the work within stipulated time, then left over works and other job will be allotted to another contractor, may be at his own cost and risk. The contractor will have to ensure normal function of staff at the floor during office hours/ non-banking hours/ day/ night without hampering normal banking business and the site will be available in parts as progress of work. Existing furniture, dismantled items shall be shifted from one place to other and form the floor by the contractor for which no extra payment will be made.

53. It shall be clearly understood that the rates quoted in the tender are to be for complete work 38 on site, as per instructions in the tender specifications and drawing and also for all such works as are necessary for the proper completion to the contract. Although specifications thereof may not have been made in the specifications or Drawings or tender

documents. The rates shall be firm and shall not be subject to cost escalation on account of labour and material, and labour condition or any other reason whatsoever.

54. Regarding the list of material to be used in works has to be got approved by the Architect/Engineer in-charge along with drawing of works, if not attached with the tender; these may be obtained from the Architect/Bank's Engineer, prior to submission of tender. The decision of the Engineer in-charge shall be considered as final and binding upon you.

55. The tenderer shall use only the form issued with this tender to fill up the rates. Every page of the tender shall be signed by the contractor along with stamp & Digital Signature.

56. DELINQUENCIES

The under noted delinquencies / defaults / misconduct / misdemeanours on the part of tenderer or enlisted contractor will attract disqualification action.

- Incorrect information about credentials, about his performance, equipment, resources, technical staff etc.
- Non-submission of the fresh / latest income tax clearance certificate
- Irregular tendering practice.
- Submission of tender containing far too many arithmetical errors and freak rates.
- Revoking a tender without any valid reasons.
- Tardiness in commencing work
- Poor organization at site and lack of his personal supervision
- Ignoring Bank's notices for replacement / rectification of rejected materials, workmanship etc.
- Violating any of the important conditions of contract i.e. site facilities, insurance, labour laws, ban on subletting etc.
- Lack of promptitude and co-operation in measurement of work and settlement of final account.
- Non-submission of vouchers and proof of purchases etc.
- Tendency towards putting up false and untenable claims.
- Tendency towards suspension of work for frivolous reasons.
- Treatment of labour
- Bad treatment of sub-contractors (piece workers) and un business like dealings with suppliers of material.
- Lack of co-operation with nominated contractors of Bank
- Contractors becoming Bankrupt or insolvent.
- Contractor's conviction by a Court of Law.
- Failure to satisfactorily rectify defects during Defects Liability Period (DLP) and discovery of latent defects in contractor's work after the expiry of DLP of his contract.

DISQUALIFICATION ACTION AGAINST (DELINQUENCIES OF) CONTRACTOR

The award of the under noted disciplinary action shall be considered.

- a) Placing embargo on issue of tenders or temporary suspension from the Bank's approved list.
- b) Permanent ban on issue of tenders and removal from the Bank's approved list.

56. The contractor will attend to all the defects noticed during the defect liability period. If the contractor fails to attend the defects, the same will be rectified by the Bank and the expenditure incurred on this account will be recovered from security deposit amount. If the expenditure incurred exceeds the security deposit the contractor has to deposit such excess amount within 15 days otherwise Bank will initiate action as deemed fit at the risk and cost of the contractor.

57. Deduction of Income tax and W.C.T, Service Tax and other govt. levies, etc. will be made as per the prevailing rates/Government rule from the contractor's final bill applicable as per Bank's requirement/instructions and the final bill shall be submitted by bifurcating service tax component on gross bill amount.

58. No mobilization advance or secured advance is to be allowed to the contractor.

59. The tenderer, must associate himself with agencies of the appropriate class for specialized works such as flooring, tiling, false ceiling, plumbing, sanitary etc.

60. The contractor shall remove all malba/debris, wastage material from the site beyond municipal limit and clean the floor, furniture, glass etc. at his own cost and handover the site in proper manner after the completion of the project. Any damage done to the property of SBI during execution of work shall be the responsibility of the contractor and it shall be made good by him at his cost to the entire satisfaction of consulting Architect/Bank.

61. The contractor shall arrange to deploy himself or their competent representative (acceptable to the Bank) who will be responsible for the conduct of the worker and who has authority to receive and act on such instructions issued by the Architect/Bank's Engineer.

62. The contractor shall give due notice to the Bank/Architect to check measurement of any work which is likely to be hidden before covering the same. The final measurement of works shall be taken jointly for the finalization of final bill along with the Architect or his representative and Engineer in-charge; if contractor remains absent during the final measurement, the measurement & quality of work certified by the Architect/Bank's Engineer binding upon you.

64. Certificates of purchase of company specified items/units like Chairs, Tube lights, electrical fixture & fittings, AC's and any such items as deemed necessary by the Architects/Bank Engineer may be asked to produce by the contractor from the authorized distributors/dealers/company showroom/transporter along with the final bill. If required bank may ask the purchase bill of the material. The Architect/Bank Engineer shall have full powers to get the material or workmanship to be inspected and tested by an independent agency for its soundness and adequacy on all the cost of contractor.

State Bank of India/SBIIMS has right to accept / reject any or all tenders without assigning any reason.

Contractor's signature with seal

SPECIAL CONDITIONS OF CONTRACT

Scope of work

The scope of work is to carry out the Civil, Sanitary & allied work for construction of SME Branch at Balotra.

Address: Already mentioned.

Dimension and levels

All dimensions and levels shown on the drawing shall be verified by the contractor on the site and he will be held responsible for the accuracy and maintenance of all the dimension and the levels. Figured dimensions are in all cases to be accepted and no dimension shall be scaled. Large-scale details shall take precedence over small - scale drawing. In case of discrepancy the contractor shall ask for clarification from the Architect/ consultant before proceeding with the work.

Notice of operation

The contractor shall not carry out any important operation without the consent in writing from the Architect/ consultant.

Construction records

The contractor shall keep and provide to the Architect/ consultant full and accurate records of the dimension and positions of all new work and any other information necessary to prepare complete drawings recording details of the work as constructed.

Safety of adjacent structures and trees

The contractor shall provide and erect to the approval of the Architect/ consultant such supports as may be required to protect effectively all structures and protective guards to trees which may be endangered by the execution of the works or otherwise take such permanent measure as may be required by the Architect to protect the trees and structures.

Temporary Works

Before any temporary works are commence, the contractor shall submit at least 7 days in advance to the architect/ consultant for approval complete drawings of all temporary works he may require for the execution of the works. The contractor shall carry out the modifications relating to strength, if required by the architect/ consultant may require in accordance with the conditions of contract at his own cost. The contractor shall be solely responsible for the stability and safety of all temporary works an unfinished works and for the quality of the permanent works resulting from the arrangement eventually adopted for their execution.

Temporary roads

The contractor shall provide access roads to the site from the nearest main road at no extra cost and as directed by the architect/ consultant. The contractor shall also responsible for proper maintenance of this access road and would take all care to see that existing services, if any, are maintained in worked order at his own cost. The laying and maintaining the temporary road within the site area shall be the contractor's responsibility and the contractor shall take such measure that are necessary and as directed by the architect/ consultant.

Water, power and other facilities

- a) The rat quoted by the contractor shall include all expenses that are required for providing all the water required for the work and the contractor shall make his own arrangements for the supply of good quality water suitable for the construction and good quality drinking water for their workers. If necessary, the contractor has to sink a tube well/open well and bring water by means of tankers at his own cost for the purpose. The SBI will not be liable to pay any charges in connection with the above.
- b) The contractors for trades directly appointed by the SBI shall be entitled to take power and water connections from the temporary water and power supply obtained by the contractor. However, the concerned contractor shall make their own arrangements to draw the supply and pay directly the actual consumption charges at mutually agreed rates between them. All municipal charges for drainage and water connection for construction purpose shall be borne by the contractor and charges payable for permanent connections, if any, shall be initially paid by the contractor and the SBI will reimburse the amount on production of receipts.

c) The SBI as well as the Architect/ consultant shall give all possible assistance to the contractors to obtain the requisite.

d) Permission from the various statutory authorities & obtaining the same from time to time shall be the responsibility of the contractor.

Office accommodation

a) The contractor shall provide and maintain all necessary offices, workshops, stores, shelters, sanitary facilities, canteens and other temporary structures for themselves in connection with the work at the site own cost after getting the approval from the architect/ consultant.

b) A site office for the use of SBI /architect/consultant shall be provided by the contractor at his own expenses.

c) All temporary buildings and facilities as mentioned above shall be removed on completion of the work or at any other earlier date as directed by the architect/ consultant.

All the expenses for obtaining statutory approvals and maintenance of the above facilities as well as running expense shall be borne by the contractor at no extra cost. It is also the responsibility of the contractor to obtain statutory approvals for providing the above facilities.

Facilities for contractors' employees

The contractor shall make his own arrangement for the housing and welfare of his staff and workmen including adequate drinking water facilities. The contractor shall also make his arrangements at his own cost for transport where necessary for his staff and workmen to and from site of work at his own cost.

Lighting of works

The contractor shall at all times provide adequate and approved lighting as required for the proper execution and supervision and inspection of works.

Fire fighting arrangements

i) The contract shall at all times provide suitable arrangements for the fighting at his own cost. For this purpose he shall provide requisite number of fire extinguishers and adequate number of buckets, some of which are of be always kept filled with sand and some with water. These equipments shall be provided at suitable prominent and easily accessible places and shall be properly maintained.

ii) Any deficiency in the fire safety or unsafe conditions shall be corrected by the contractor at his own cost and to the approval of the relevant authorities. The contractor shall make the following arrangements at his own cost but not limited to the following:

a) Proper handling, storage and disposal of combustible materials and waste. b) Worked operations which can create fire hazards. c) Access for the fire fighting equipments. d) Types, number and location of containers for the removal of surplus materials and rubbish. e) Type size, number and location of fire extinguishers or other fire fighting equipment. f) General housekeeping.

Site order book

A site order book shall be maintained at site for the purpose of quick communication between the Architect and consultants. Any communication relating to the works may be conveyed through Records in the site order book. Such a communication from one party to the other shall be deemed to have been adequately served in terms of contract. Each site order book shall have machine numbered pages in triplicate and shall carefully maintained and preserved by the contractor and shall be made available to the architect/ consultant as and when demanded. Any instruction which the Architect/ Consultant may like to issue to the contractor or the contractor may like to bring into the notice of the architect / consultant - two copies of such instructions shall be taken from the site order book and one copy will be handed over to the party against proper acknowledgement and the second copy will be retained for their record.

Temporary fencing/ barricading

The contractor shall provide and maintain a suitable temporary fencing/ barricading and gates at his cost to adequately enclose all boundaries of the site for the protection of the public and for the proper execution and security of the work and in accordance with the requirement of the architect/ consultant and regulations of local authorities. These shall be altered, relocated and adopted from time to time as necessary and removed on completion of the work.

Site meetings

Site meetings will be held to review the progress and quality evaluation. The contractors shall depute a senior representative along with the site representative staff of approved sub-contractors and suppliers as required to the site meetings and ensure all follows up actions. Any additional review meetings shall be held if required by the architect/ consultant.

Disposal of refuse

The contractor shall cart away all debris, refuse etc. arising from the work from the site and deposit the same as directed by the architect/ consultant at this own cost. It is the responsibility of the contractor to obtain from the locate authorities concerned to the effect that all rubbish arising out of contractor's activities at the construction site or any other off-site activities borrow pits has been properly disposed off.

Contractor to verify site measurement

The contractor shall check and verify all site measurement whenever requested by other specialists contractors of other sub-contractors to enable them to prepare their own shop drawings and pass on the information with sufficient promptness as will not in any way delay the works.

Displaying the name of the work

The contractor shall check and verify all site measurements whenever requested by other specialists contractors of other sub contractors to enable them to prepare their own shop drawings and pass on the information with sufficient promptness as will not in any way delay the work.

Bar bending schedule

The Contractor shall prepare a detailed bar bending schedule for all reinforced concrete works and got them approved by the architect/consultant well in advance.

As built drawings

i) For the drawing issued to the contractor by the Architect/Consultant. The architect/ will issue two sets of drawings to the contractor for the items for which some changes have been made. From the approved drawings as instructed by the SBI/ architect/ consultant. The contractor will make the changes made on these copies and return these copies to the architect/ consultant for their approval. In case any revision in required or the corrections are not properly marked the architect/ consultant will point out the discrepancies to the contractor. The contractor will have to incorporations and / or attend to discrepancies either on the copies as directed by the architect/ consultant and resubmit to him for approval. The architect/ consultant will return one copy duly approved by him.

ii) For the drawings prepared by the contractor, the contractor will modify the drawing prepared by him wherever the changes are made by the SBI / architect/ consultant. And submit two copies of such modified drawings to the architect/ consultant for approval. The architect / consultant will return one copy of the approved drawing to the contractor.

Approved make

The contractor shall provide all materials from the list of approved makes at his own cost and also appoint the specialized agency for the water proofing anti-termite, aluminium doors and windows and any other item as specified in the tender. The architect/ consultant may approve any make/ agency within the approved list as given in the tender after inspection of the sample/ mock up.

Procurement of materials

The contractor shall make his own arrangements to procure all the required materials for the work. All wastage's and losses in weight shall be to the contractors account.

Excise duty, taxes levies etc.

The contractors shall pay and be responsible for payment of all taxes, duties, levies, royalties, fees cess, or charges in respect of the works including but not limited to sales tax, tax on works contract excise duty, and octroi, payable in respect of materials, equipments plant and other things required for the contact. All of the aforesaid taxes, duties, levies, fees and charges shall be to the contractors account and the SBI shall not be required to pay any additional or extra amount on this account. Variation of taxes, duty fees, levies etc if any, till completion of work shall be deemed to be included in the quoted in the quoted rates and no extra amount on this account. Variation of taxes, duties, fees, levies, etc if any till completion of work shall be deemed to be included in the quoted rates and no extra claim on this account will in any case be entertained. If a new tax or duty or levy or cess or royalty or octroi is imposed under as statue or law during the currency of contract the same shall be borne by the contractor.

Acceptance of tender

The SBI shall have the right to reject any or all tenders without assigning any reason. They are not to bound to accept the lowest or any tender and the tenderer shall have no right to question the acts of the SBI. However, the adequate transparency would be maintained by the SBI.

- i) For Fire fighting works, contractor shall submit the name of experienced agencies and get the work executed after obtaining the approval of S.B.I.
- ii) For Pre-construction Anti termite treatment and water proofing works, contractor is required to furnish guarantee for a period of 10 years from the date of completion of work.

SAFETY CODE

1. First aid appliances including adequate supply of sterilised dressing and cotton wool shall be kept in a readily accessible place.
2. An injured person shall be taken to a public hospital without loss of time, in cases where the injury necessitates hospitalization.
3. Suitable and strong scaffolds should be provided for workmen for all works that cannot safely be done from the ground.
4. No portable single ladder shall be over 8 meters in length. The width between the side rails shall not be less than 30cm. When a ladder is used an extra mazdoor shall be engaged for holding ladder.
5. The excavated material shall not be placed with 1.5 meters of the edge of the trench or half of the depth of trench whichever is more. All trenches and excavations shall be provided with necessary fencing and lighting.
6. Every opening in the floor of a building or in a working platform be provided with suitable means to prevent to fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one metre.
7. No floor, roof or other part of the structure shall be so overloaded with debris or materials as to render it unsafe.
8. Workers employed on mixing and handling material such as asphalt, cement mortar or concrete and lime mortar shall be provided with protective footwear and rubber hand-gloves.
9. Those engaged in welding works shall be provided with welder's protective eye-shields and gloves.
10. i) No paint containing leads or lead products shall be used except in the form of paste or readymade paint.
ii) The workers should supply suitable face masks for use when the paint is applied in the form of spray or surface having lead paint dry rubbed and scrapped.
11. Overalls shall be supplied by the contractor to the painters and adequate facilities shall be provided to enable the working painters to wash during the periods of cessation of work.
12. Hoisting machines and tackle used in the works, including their attachments, anchorage and supports shall be in perfect condition.
13. The ropes used in hoisting or lowering material or as a means of suspension shall be of durable quality and adequate strength and free from defects.

PROFORMA FOR RUNNING ACCOUNT BILLS

CERTIFICATE

The measurement on the basis of which the above entries for the Running Bill No. _____ were made have been taken jointly on _____ and are recorded at pages _____ of measurement book No. _____

Date & Signature of Contractor

Date & Signature of Architect's representative

Date & Signature of Site Engineer

The work recorded in the above mentioned measurements has been done at the site. Satisfactorily as per tender drawings, conditions and specifications.

BANK'S ARCHITECT

SITE ENGINEER

RUNNING A/C BILL

Name of contractor/Agency

Name of Work

Sr. No. of this bill.

No. and date of previous bill.

Reference to Agreement No.

Rate of Written order to commence.

Date of Completion as per Agreement.

Sr. No.	Item description	Unit	Rate (Rs.)	As per Tender Qty. Amt. (Rs.)	Upto previous R.A bill Qty. Amt. (Rs.)	Upto date (Gross) Qty. Amt. (Rs.)	Press bill Qty. Amt. (Rs.)	Remarks
1	2	3	4	5	6	7	8	9

Note:

1. If part rate is allowed for any item, it should be Net Value since indicated with reasons for allowing such a rate previous bill.
2. If adhoc payment is made, it should be mentioned specifically

Date & Signature of Contractor

Date & Signature of Bank's Architect's

Date & Signature of Site Engineer

**ACCOUNT OF SECURED ADVANCE, IF ADMISSIBLE ON
MATERIALS HELD AT SITE BY THE CONTRACTOR**

NO.	ITEM	Quantity	Unit	Amount	Remarks
2	2	3	4	5	6

Total Value of materials at site

Secured Advance @% of above value

CERTIFIED (I) that the materials mentioned above have actually been brought by the contractor to the site of the work and no advance on any quantity of any of this item in outstanding on their security, (ii) that the materials are of imperishable nature and are all required by the contractor for use in the work in connection with the items for which rates of finished work have been agreed upon.

Dated signature of Site Engineer
Preparing the bill

Designation _____
Dated signature of Bank's Architects
(Name of the Architects)

Dated Signature of Contractor

**WATER PROFFING WORK
FREE MAINTENANCE GUARANTEE
FORM OF AGREEMENT**

After completion of the work i.e. _____ and before _____ day of the month _____ if at any time or times the roofs toilet, water tank and any other portion thus treated by M/s _____

(hereinafter called "the Contractor") starts leaking or in any way give way to the influence of water including forming wet patches dampness, etc. due to the inadequacy of the work carried out or due to any other reason whatsoever relating to the specification, workmanship etc. including the responsibility for any surface treatment and plumbing etc. works carried out by other agencies, the contractor should, without any extra cost to the Employer or to the occupants, carry out necessary remedial measures to such extent and so often as may be necessary to free the said premises from leakage, etc. The question of whether there is any leakage or the treatment has given way to water or moisture after the completion of the treatment aforesaid and before _____, shall be decided by the Employer and the decision of the Employer in this regard shall be final and binding on the Contractors. The Contractor shall reinstate the surface to its original condition after carrying out the rectification work, if necessary by bringing new materials at no extra cost to the Employer.

SIGNATURE OF EMPLOYER

SIGNATURE OF CONTRCTORS

PLACE:

PLACE:

DATE:

DATE:

NAME & ADDRESS OF THE
WATER PROOFING AGENCY:

**FORMAT OF GUARANTEE TO BE EXECUTED BY THE CONTRACTOR IN RESPECT OF
THE WORK OF PRE-CONSTRUCTION ANTI-TERMITE TREATMENT**

This agreement made this _____ day of _____ two thousand and _____ between State Bank of India, a body corporate constituted under the _____ Act, 19____ having its Head Office at _____ (hereinafter called "the Employer") of the one part and Name of Firm/ Contractor (hereinafter called "the Contractor") of the other part.

WHEREAS THIS AGREEMENT is supplementary to a contract (hereinafter called the contract dated _____ and made between the Employer of the one part and the Contractor of the other part) where by the Contractor inter alia undertook to render the building/ structure completely free from any infestation of termites. And whereas the Contractor agreed to give guarantee to the effect that the said building/ structure shall remain free from any infestation of termites for a minimum period of ten years from the date of completion of pre- construction anti-termite treatment carried out as per the relevant I.S. Code.

Now the Contractor hereby agrees to make good all defects and render the building/ structure free from any infestation of termites, during this period of guarantee and to the satisfaction of the Employer. The contractor also agrees to take up such rectification work at his own cost, and within one week from the date of issue of notice from the Employer, calling upon him to rectify the defects. The decision of the employer as to the cost payable by the Contractor will be final binding, in case the contractor fails to commence the works as per above notice and the work is got done through some other contractor. That if the contractor fails to execute the pre-construction anti-termite treatment or commits breach there under then the contractor will indemnify the principal and his successors against all loss, damage caused, expense or otherwise which may be incurred by him by any reason of any default on the part of the contractor in performance and observance of this agreement. As to the amount of loss and / or damage and/ or cost incurred by the Employer the decision of the Employer will be final and binding.

In witness where of these presents have been executed by the obligator _____ and by _____ and for on behalf of the Employer on the day, month and year first above written.

Signed, and delivered by _____ (Bank) by the hands of Shri _____ in the presence of _____.

Signed and delivered by the _____ (Contractor) by the hands of Shri _____ in the presence of _____.

PROFORMA OF BANK GUARANTEE
(On non-Judicial Stamp Paper of Appropriate Value)

In the consideration of State Bank of India, a body corporate, constituted under the State Bank of India Act 1955, having its Central Office at Madam Cama Road, Nariman Point, Bombay and one of its Local Head Offices at 11, Parliament Street, New Delhi (hereinafter referred as SBI) having agreed to exempt M/S _____

_____ a company registered under the Companies Act, having its registered office at _____

_____ (hereinafter called the said Contractor) from the demand, under the terms and conditions of the Agreement dated _____ made between SBI and the Contractor (hereinafter as the said Agreement) from the Security deposit for the due fulfilment of the Contractor of the terms & conditions contained in the Agreement on production of a Bank Guarantee for Rs. _____ (Rupees _____).

Transfer of Undertaking Act 1970) having its Head Office at _____

_____ (hereinafter referred to as "the Bank") at the request of M/S _____ (Contractor) to hereby undertake to pay to SBI an amount not exceeding Rs. _____ (Rupees _____) against

any loss or damage used to or suffered or would be caused to or suffered by the SBI by reason of any breach by the said Contractor of any terms & conditions contained in the said Agreement.

1. We _____ do hereby undertake to pay the amount due and payable under this guarantee without any demur merely on a demand from SBI stating that the amount claimed due by way of loss or damage caused or likely to be caused to or referred by SBI by reason of breach by the said contractor of any of terms and conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liabilities under this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____).

2. We _____ undertake to pay the SBI any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceedings pending before any court or Tribunal relating thereto, our liabilities this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liabilities for payment there under and the Contractor shall have no claim against us or making such payment.

3. We _____ further agree and undertake that the guarantee herein contained shall remain in full force and effective during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the SBI under or by virtue of the said Agreement have been fully paid and its claims satisfies or discharged or till the Assistant General Manager (Premises), State Bank of India, Local Head Office, 11 Parliament Street, New Delhi, certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all Liabilities under this guarantee thereafter.

4. We _____ further undertake and agree that the SBI shall have the full liberty without our consent and without effecting in any manner our obligations hereunder to vary in all the terms and conditions of the said Agreement or to extend time of performance by the said contractor from time to time, or to postpone for any time or, from time to time, any of the powers exercisable by the SBI against the Contractor and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liabilities by reason or any such variation or extension being granted to the said Contractor or for any forbearance, at of omission on the part of the SBI or any indulgence by SBI to the said Contractor by any such matter or thing whatsoever under the law relating to sureties would, but for this provision have effect of so relieving us.

5. This guarantee shall remain valid and in full force till _____ and if no demand or claim under this guarantee is made on us in writing on or before _____ we shall be discharged from all liabilities under the guarantee. Our liabilities under this guarantee are restricted to Rs.

(Rupees _____)
we further undertake to renew this guarantee on the receipt of call from SBI without any reference to the Contractor. Our liabilities to renew the guarantee shall be absolute.

6. This guarantee shall not be discharged due to the change in the constitution of SBI, Bank or the Contractor.

We _____ lastly, undertake not to revoke this guarantee during its currency except with the previous consent of SBI in writing.

New Delhi:

Date: _____ day of _____ Signature

**PROFORMA OF BANK GUARANTEE
(On non-Judicial Stamp Paper of Appropriate value)
FOR MOBILISATION ADVANCE**

In consideration of the State Bank of India, a body corporate, constituted under the State Bank of India Act, 1955, having its Central Office at Madam Cama Road, Nariman Point, Bombay and one of its Local Head Offices at 11, Parliament Street, New Delhi (hereinafter referred as SBI which expression shall unless repugnant to the subject or context include its successors and assigns) having agreed under the terms and conditions of contract vide its agreement dated _____ made between _____ and the State Bank of India in connection with the construction of _____ (hereinafter called the 'contract' which expression shall, wherever the context so requires include its successors and assigns).

Where one of the conditions of the contract places on the contractor is that the owner should make a payment of Rs. _____ (Rupees _____) being _____ (_____) of the contract value as Mobilisation Advance to the Contractor, hereinafter referred to as Mobilisation Advance on production of Bank Guarantee of an equal value and such Mobilisation Advance shall be recovered after the _____ Running Account Bill of the Contractor in such a manner that the total advance is recovered before 80% of the total contract amount work is complete.

Now therefore in consideration of the mutual covenants and at the instance of the Contractor, the surety hereby given and irrevocable and unconditional guarantee to pay on first part without demur to the owner a sum of Rs. _____ (Rupees _____) or such portion thereof not exceeding the said sum as may from time to time required by the owner in such manner as the owner may direct should the contractor commit default in performing any of the terms and conditions of the contract, or in payment of any money due to the owner or in case the amount cannot be deducted by the owner from the Running bills of the contractor towards the payment of Mobilisation Advance. The owner shall have the full liberty, without reference to SURETY and without affecting the guarantee to postpone for any time or from time to time the exercise of any of the powers and rights conferred on owner under the contract with the contractor and or to enforce or forebear from enforcing any powers or rights or by reasons of time being given to the Contractor and such postponement of forbearance would not have the effect of releasing the SURETY from its obligations under this deed. The right of the owner to recover a sum of Rs. _____ (Rupees _____) from the surety in the manner aforesaid will not be affected or suspended by reason of the fact that any dispute or disputes has or have been raised by the contractor and/ or that any dispute or disputes is or are pending before any officer, Tribunal or court.

The Guarantee herein contained shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the contractor but shall in all respects and for all purpose be binding and operative until payment of all money due to the owner in respect of such liability or liabilities.

The liabilities of the Surety under this Guarantee is restricted to Rs. _____ (Rupees _____).

This Guarantee will remain in force until _____. Unless a demand or claim under this Guarantee in writing is filed against Surety on or before _____ where after all the rights or the owner under the

said Guarantee shall be forfeited and the Surety shall be relieved and discharged from all liabilities there under.

Notwithstanding anything herein contained our liability under this Guarantee shall:

a. Be limited to a sum of Rs. _____ (Rupees _____).

b. Stand completely discharged and all your rights under this Guarantee shall stand extinguished if no claim or demand is made upon us in writing on or before.

PLACE

Dated: _____ day of _____ Signature:

PROFORMA

ON Rs. 5/- Non Judicial Stamp Paper

INDEMNITY BOND

KNOW all men by these presents that I/We _____ do hereby execute indemnity bond in favour of (1) _____ having their Registered Office at _____ and amongst other Offices, at No. _____ AND (2) M/s _____ having their office at _____ on this _____ day of _____ 2018.

WHEREAS the _____ have appointed _____ as the Civil Contractor for their proposed project of _____ and M/S _____ as their Architects.

THIS DEED WITNESS AS FOLLOWS:

I/We hereby do Indemnify and save harmless

- (1) _____ and
- (2) M/S _____

against and from:-

- (1) And third party claims, civil or criminal complaints/ liabilities, site mishap and other accidents or disputes and/or faulty work, negligence, faulty construction and/ or for violating any law, rules and regulations in force, for the time being while execution/ executed civil works by me/ us.
- (2) Any damages, loss or expenses due to or resulting from any negligence or breach of duty on the part of me/us or my sub-contractor/ if any, servants or agents.
- (3) Any claim by an employee of mine/ ours or of sub-contractor/s if any, under the workmen compensation Act and Employer's Liability Act 1939 or any other law rules and regulations in force for the time being and any act replacing and/ or amending the same or any of the same as may be in force at the time and under any law in respect of injuries to persons or property arising out of and in the course of the execution of the contract work and/ or arising out of and in the course of employment of any workman/ employee.
- (4) Any act or omission of mine /ours or sub-contractor/s if any, our/their servants or agents, which may involve any loss, damage liability, civil or criminal action.

IN WITNESS WHEREOF THE _____ has set his/ their hands on this day of _____ 2018.

SIGNED AND DELIVERED BY THE AFORESAID IN THE PRESENCE OF WITNESS:

1) _____

2) _____

PROFORMA FOR PROGRESS REPORT

SBIIMS

JAIPUR

REPORT DURING THE PERIOD OF _____

DATE OF PREPARATION

UPDATING

NO.

s.NO.	Name of Project with dates and amount of financial sanction.	Name & type of contract/ tender and contract/ tender No. If any with date of start.	Names of the Architect & Engineer-in-charge	Estimated cost Contract cost and time period of each tender / contract.
1	2	3	4	5

Month elapsed since start	Physical progress in the month including milestone	Overall percentage	Financial progress in the month including milestone Planned /achieved	Overall percentage
6	7	8	9	10

Remarks & Signature of
of Architect

Remarks & Signature
of Contractor

Remarks & Signature
Banks Engineer (site)

PROFORMA OF CONCRETE CUBE TEST REPORT

1. Name of the project _____

2. Name of the Contractor _____

Sr. NO.	Date of Casting	Identification mark and location in which the representative concrete is placed	Mix Proportion	Date Of testing
1	2	3	4	5

Crushing strength as on date of test	Crushing strength as on The 28th day	Average crushing strength (average of 3 companion cubes As on the 28th Day)	Remarks	Signature of the Site Engineer
6	7	8	9	10

TESTING OF MATERIALS & THEIR FREQUENCY

Test Required	Frequency	Acceptance Criteria
1. Cement		
Determination of Initial and Final setting times	One test for 50 tonnes of part thereof	Initial setting time shall be less than 30 minutes. Final setting time shall be not less than 600 minutes.
Determination of Compressive Strength	One test of 50 tonnes of part thereof.	The compressive strength shall be calculated from the crushing load and the average area over which the load is applied. It shall be the average of the strength of the three cubes for each period of curing
2. Fine Aggregate (Sand)		
Moisture Content and Absorption	This test is carried out each day prior to start of batching and whenever the moisture content in fine aggregate is doubtful or every 40 Cum or part thereof.	It shall not be more than 20% Calculations: Absorption = $(W1-W2)100 / W2$
Silt Content	This is a routine test and should be carried out for sand for each consignment.	The limit of Silt content should not exceed 4% by volume. Calculation: Silt content percentage = $(V1-100x)/V2$ V1= Silt layer in milliliter V2= Cleared sand in millilitre
3. Coarse Aggregate		
Aggregate crushing value	This test shall be carried out once in the beginning as soon as sufficient quantity of aggregate is stacked at site and to be repeated if the source of aggregate is changed.	It shall not exceed 45% for aggregate used for concrete other than for wearing surface and 30% for concrete wearing surfaces.
Grain Size Analysis	For every 45 cum of part thereof.	The fineness modulus shall be between 2.30 to 4.50 for fine aggregates and from 4.50 to 8.0 for coarse aggregates. Calculations: % retained at every sieve shall be noted and the fineness modulus is calculated as per following formulae. Fineness modulus = $(\text{Sum of the Cumulative percentage retained})/100$ The records shall be maintained as

		<p>follows:</p> <p>Sieve Wt. Wt, % Wt. Cumulative Size retained passed retained % retained</p>																																												
3. MILD STEEL & MEDIUM TENSILE STEEL BARS																																														
Tensile Test	One test for 15 to 20 tonnes	<p>It shall be as per following values:</p> <p>Mechanical Properties of Bars Type & Ultimate Yield Elongation Nominal Tensile Stress % size of Stress</p> <table border="0"> <thead> <tr> <th>Bar</th> <th>Min</th> <th>Min.</th> <th>Min.</th> </tr> </thead> <tbody> <tr> <td>1.Mild Steel Gr. 1N/mm² n/MM²</td> <td></td> <td></td> <td></td> </tr> <tr> <td>a) For bars upto & including 20mm</td> <td>410</td> <td>250</td> <td>33</td> </tr> <tr> <td>b) For bars over 20mm upto and including 50mm</td> <td>410</td> <td>240</td> <td>23</td> </tr> <tr> <td>2. Mild Steel Gr. II</td> <td></td> <td></td> <td></td> </tr> <tr> <td>a) For bars upto & including 20mm</td> <td>370</td> <td>225</td> <td>23</td> </tr> <tr> <td>b) For bars over 20mm upto and including 50mm</td> <td>370</td> <td>215</td> <td>23</td> </tr> <tr> <td>3. Medium Tensile Steel</td> <td></td> <td></td> <td></td> </tr> <tr> <td>a) For bars upto & including 16mm</td> <td>540</td> <td>350</td> <td>20</td> </tr> <tr> <td>b) For bars over 16mm upto and including 32mm</td> <td>640</td> <td>340</td> <td>20</td> </tr> <tr> <td>a) For bars over 32mm upto and including 50mm</td> <td>510</td> <td>330</td> <td>20</td> </tr> </tbody> </table>	Bar	Min	Min.	Min.	1.Mild Steel Gr. 1N/mm ² n/MM ²				a) For bars upto & including 20mm	410	250	33	b) For bars over 20mm upto and including 50mm	410	240	23	2. Mild Steel Gr. II				a) For bars upto & including 20mm	370	225	23	b) For bars over 20mm upto and including 50mm	370	215	23	3. Medium Tensile Steel				a) For bars upto & including 16mm	540	350	20	b) For bars over 16mm upto and including 32mm	640	340	20	a) For bars over 32mm upto and including 50mm	510	330	20
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4 Cold worked steel high strength deformed bars for concrete reinforcement																																														
Tensile Test	One test for 15 to 20 tonnes	<p>It shall be as per following values for all size on high strength deformed bars.</p> <table border="0"> <thead> <tr> <th>Grade</th> <th>Grade</th> </tr> </thead> <tbody> <tr> <td>Fe 415</td> <td>Fe 500</td> </tr> <tr> <td>a) 0.2 per cent</td> <td></td> </tr> </tbody> </table>	Grade	Grade	Fe 415	Fe 500	a) 0.2 per cent																																							
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		<p>proof stress</p> <p>Min. N/mm² 415. 500.</p> <p>b) Elongation, Percent, Min, on gauge length 5.65 A Where A is Cross sectional area of test piece 14.5 12.0</p> <p>c) Tensile Strength</p> <p>Min 15 10 Percent Percent more more than the than the actual actual 0.2% 0.2% Proof Proof Stress Stress</p>
5. Burnt Clay Building Bricks		
Compressive Strength	One set of test on 5 bricks for every 100,000 bricks or part thereof subject to change of brand of bricks for bricks having strength 100 Kg/cm ² and one similar set for every 2.0 lakh or part thereof for bricks having designation 75,50,35.	Compressive strength in N/mm ² or (Kgf./cm ²) = Maximum Load in Kg at Failure / Average area of bed faces in cm ²
Determination of water absorption	One set of test on 5 bricks for every 100,000 bricks or part thereof subject to change of brand of bricks for bricks having strength 100 Kg/cm ² and one similar set for every 2.0 lakh or part thereof for bricks having designation 75,50,35.	Water absorption, percent by Mass = M ₂ - M ₁ X 100 / M ₁ =) for bricks designation 100 > 20% ii) for bricks designation 75,50,35 > 25%
Determination of Efflorescence	One set of test of 5 bricks for every 1,00,000 bricks or part thereof subject to change of brand of bricks for bricks having strength 100 Kg./cm ² and one similar set for every 2.00 lakh or part thereof for bricks having designation 75,50,35.	The liability of efflorescence shall be reported as "Nil" "Slight" "Moderate" "Heavy" or "Serious" in accordance with the following definitions: Nil - When there is no perceptible deposit of efflorescence. Slight - When not more than 10% of the expose area of the brick is covered with a thin deposit of salts. Moderate - When there is a heavier deposit under 'slight' and covering upto 50% of the exposed area of the brick surface but

		unaccompanied by powdering of flaking of the surface. Heavy - When there is a heavy deposit of salts covering 50% or more of the exposed area of the brick surface but unaccompanied by powdering or flaking of the surface. Serious - When there is a heavy deposit of salts accompanied by powdering and/ or flaking of the exposed surface.
6. Glazed Earthen Ware		
Tiles Vapour Absorption	Every 3,000 nos. or part thereof.	The average water absorption of tile when tested and evaluated shall not exceed 18%. The water absorption of the specimen shall be calculated as follows: Percentage Water = $\frac{WW-WD}{WD} \times 100$ Absorption Where WW = Weight in gm. of the surface wiped specimen after 2 hours boiling in distilled water an 20 hours immersion in cold water
Razing test	every 3,000 nos. or part thereof.	After undergoing two cycles of the razing test, the tile shall not show any sign of razing.
Impact strength test	Every 3,000 nos. or part thereof.	The Impact strength value shall not be less than 0.02 c Kg. f.m./cm
7 Timber		
Moisture Content and Specific Gravity test	For every ten cum of part thereof	The loss in weight expressed as a percentage of the oven dry weight shall be taken as the moisture content of the specimen. The formula for calculation shall be as given below : Percentage Moisture Content = $\frac{W1 - WO}{WO} \times 100$ W1 = Weight of sample at test in gms. W0 = Oven dry wt. of sample in gms. Moisture content shall not exceed following valued. i) Timber for frames = 14% ii) Timber for planking shutters etc. = 12%
8. Particle Boards		
Identification (Physical Certification) Each particle board shall be eligibly marked near any of its age with the following. Name of the manufacture or trade mark	One from each lot	Density - The density of each sample shall not vary from the mean density by more than + 10%. Moisture content: The average value of the moisture content shall be between 7 to 16% Water absorption: The value of water absorption shall not exceed 25% for two hrs, soaking and 50% for

		20 hrs soaking.
<p>2. Designation of particle board</p> <p>3. Thickness and date of manufacture.</p> <p>4. Whether I.S.I. Certification marks exists.</p> <p>5. Dimensional Tolerance</p> <p>Length \pm 8mm</p> <p>Width \pm 8mm</p> <p>Thickness</p> <p>i) Boards upto and including 25mm thick \pm 5.0%]</p> <p>ii) Boards above 25mm thick \pm 2.5%</p> <p>Edges of the board shall be straight with a tolerance of 3mm.</p>		<p>Exterior grade (I) : These particle boards shall not delaminate after 3hrs. boiling in water at 100C.</p> <p>Interior Grade (Gr.II): These particle boards shall not disintegrate and/ or shall not delaminate after 24hrs. immersion in water at $27\% \pm 2^{\circ}\text{C}$.</p> <p>Swelling water: Swelling in thickness in% of original thickness for 2 hrs. immersion shall be determined and the same shall not be more than 5%</p> <p>The Swelling in thickness due to surface absorption in two hours shall not be more than 5%</p>
9. Wooden Panel Door shutters		
<p>Physical Test</p> <p>Physical Verification</p> <p>i) Name of the manufacturer or trade mark.</p> <p>ii) Thickness of door shutter.</p> <p>iii) Whether ISI Certification mark exists</p>	One from each lot	. A specimen shall be considered to have passed the test if no determination has occurred in the glue lines in the plywood and if no single determination. More than 50mm in length and more than 3mm in depth has occurred in the assembly glue lines between the plywood faces and the stile and rail
10. Anodic coating on Aluminium Thickness	Material costing Rs. 25000/- or part thereof.	Average thickness shall be calculated.

SPECIFICATION

General

Without forgoing the requirements of the conditions of Tender and the Conditions of Contract the works in general shall conform to the "Latest Specifications" published by CPWD, New Delhi and the "Specifications for works" stated in this tender. In case items not covered by the general specification referred above, reference shall be made to the appropriate I.S. Code. If there is any difference in the particular specifications of individual item of work and the description of item as given in the Schedule of quantity, the latter shall prevail. In case of any work for which there is no specification in I.S. specifications or in the specifications forming part of tender documents or in case there is any variation, such work shall be carried out in all respects in accordance with the instructions to be issued by the Architects. The term Resident Engineer appearing in the specifications shall mean the representative of architect as consistent with the conditions and other stipulations of this contract. The term Department shall mean the Employer. Any reference to ISI shall also mean reference to its successor Bureau of Indian Standards. All corrections to "Latest Specifications" or revisions of I.S. shall be deemed to apply to this contract.

Materials bearing ISI certification mark shall be given highest preference for use in the works.

Where the Contractor is required to do, perform, execute (etc.) any work or service or the like, it shall be deemed to be at this own cost. Absence of terms providing supplying, installing, fixing, etc. shall not even remotely entitle the Contractor to any additional payment thereof.

1.4 The rates accepted in the Schedule of Quantities apply to all floors, heights, depths, leads, lifts, spans, sizes, shapes, locations, etc. unless a distinction has been included in the very Schedule.

1.5 The Specifications and the Schedules may have been divided into various sub-heads for convenience only. This does not limit applicability of one to the other nor it absolves the Contractor of his responsibility to complete any trade/ item of work as reasonably inferred from one or more of such sub- heads.

The Schedule of Quantities is not necessarily based on "Schedule of Rates - Delhi 2012" or any of its later/ earlier versions or correction slips. Hence the Schedule of Quantities shall be read and construed according to explanations given herein and intentions gathered there from. A mere parallel drawn from the said Schedule of Rates shall therefore not form a basis for a variation and, or additional payment.

All work under this contract is deemed to be performed above subsoil water level. However, removal of water collected from rains and the like shall be treated as part of contractual risk/ obligation.

Screws, bolts, nuts, washers, hold fasts, lugs, anchors, clamps, plugs, suspenders, brackets, straps and fasteners of the like are deemed to be included in the rates of various items unless the Schedule of Quantities expressed a different intention.

Resetting any displacements, making good holes/ chases and such other incidental jobs are included in rates of respective items for which these are required.

Earth Work:

1.1 The work in all kinds of soils is included. If ordinary/ hard rock is involved separate rate shall be settled.

Any open/ close timbering, if ordered shall not be paid separately.

2.2 Surface dressing, removal of grass/vegetation, shrubs and trees is included in the rates.

2.3 The details of Specialist firm executing anti termite treatment shall be submitted to the Architect and his approval shall be obtained before appointing such firm. The Contractor and the Sub-Contractor shall each furnish a guarantee as per Performa attached in respect of effective and successful performance of such treatment for a minimum period of ten years from the date of completion of the works as laid down in the conditions of contract.

2.4 The items of excavation and filling apply to all depth and lifts, in trenches, over areas, in pits etc. unless otherwise stated in the items.

2.5 The cutting work shall be executed true to levels, slope, shape and pattern indicated by the Architects or his authorised representative. In case it is taken deeper by the contractor, it shall be brought to the required level by filling with lean concrete duly consolidated at the Contractor's cost. The earth from cutting shall be directly used for filling up the pool, well, etc. and no claim for double handling of earth shall be entertained. The excavation profiles shall be widened so as to give stable slope or the sides shored up as directed by the Architect. Disposal of surplus earth/ soil includes spreading and consolidation, shall be as directed by the Architect to a lead upto anywhere

within the Employer's site unless a specific lead has been stated in the item under Description of work.

2.6 The items of excavation apply to depth and lifts upto 1.5m. For excess beyond 1.5m a separate item appears as "exceeding 30cm depth 1.5 min width as well as 10 Sq.m. on plan."

2.7 The item of earth brought from outside includes cost of earth, its royalty loading, cartage, unloading etc. The source has to be chosen by the contractor of his own accord with no liability to the Employer. Cost of excavation at source is also included in the cost of earth, measurement shall be for the quantity excluding voids.

2.8 The method of measurement of earth work shall be by computation with help of initial and final levels to be recorded jointly by the Site Engineer and the Contractor. Any other method (by stacks of by trucks) shall require prior permission of the Architect and the Employer. All volumes shall be measured net.

2.9 Dressing of sides of wall etc. and ramming of bottoms shall not be paid for separately.

Concrete Work (Plain or reinforced):

Centring, shuttering, staging, form work, strutting, propping (their provision and removal) shall not be paid for separately unless exclusion thereof is specifically described in the item.

The rates of concrete work do not include rendering or plastering but hacking and preparing surface for receiving the finished shall be done as early as possible.

Plinth protection shall be laid in panels to Architect's approval. The rate includes cost of bed, any incidental excavation, levelling, dressing, consolidation of sub-grade and disposal of surplus soil as included in the rate of the item.

Use of integral waterproofing compound where called for shall be as per manufacturer's directions. The contractor shall supply relevant literature and licensed copy from ISI pertaining to this product to the Architect well in advance and obtain his approval/ instructions.

Any chamfers, grooves, drips, etc. which are generally and customarily required shall be provided in the concrete work integrally or otherwise without extra charges as directed by the Architect.

Stone Work:

4.1 Stones

They shall be roughly rectangular shaped from an approved quarry.

They shall be tough, hard, dense, durable, sound, uniform in colour and texture and free from flaws, cracks, injuries, veins, crystals, minerals, salt, cavities, skins and other defects.

The contractors shall furnish a sample stone, which he intends to use on the works and get the same approved by the Architects.

Royalties, compensations, octroi duties etc., payable for securing stones shall be paid by the contractor.

Mortar:

The Mortar shall be as specified in the item. The sand shall be of approved quality and may be screened or washed if required without extra cost.

Workmanship:

Flat Stones shall not be less in breadth than in height and its length shall not be less than 1 | times its height. Through Stones or headers shall be laid in every course at a distance not exceeding 1.0 meter apart and shall be staggered. They shall be one piece for walls upto 600mm width and shall be lap jointed in case of greater thickness. The face area of each header shall not be less than 0.05 sq.m. They shall be distinctly marked on their face.

Quoins shall have the same heights as that of the course. They shall be laid header and stretcher alternatively. Faces of quoins shall be fair dressed. No quoin stone shall be less than 0.03 Cum, in content, jambs of doors, windows and openings be formed with quoins. They shall have uniform chisel draft of 40mm at the corner edge.

The masonry shall be laid to lines, levels, curves and shapes as shown in the plans. The face of all masonry work shall be strictly in plumb. In the case of battered walls, the courses on the battered surface side shall be at right angles to batter. All joints shall be raked out and unless otherwise stated are cement pointed 1:3 in the case of all

exposed surfaces.

The fixtures, plugs, frames etc., if any, shall be built in places as shown on plans while laying the masonry, and not after by removing the stones already laid.

Bad work shall be pulled down as directed by the Architect and shall be rebuilt at the Contractor's cost.

All masonry shall be washed down on completion and all stains and mortar removed from the face as scaffolding is being removed.

Holes of the required size and shape shall be preferably left during construction alone for fixing pipes, service line etc., After the pipes are fixed in position the hollows. If any, shall be filled in with 1:3 cement mortar or 1:3:6 cement concrete. The face shall be neatly finished with matching stones. Iron and steel fixture shall be embedded in cement mortar 1:5.

Adequate single/ double scaffolding required for constructing masonry shall be provided by the Contractor at his expense.

First Sort:

Exposed face stones shall have the vertical and horizontal sides perfectly straight parallels and at right angles to the adjacent sides.

Height of each course shall not be less than 150mm and all the stones in the course shall be of the same height. Unless otherwise stated height of all courses shall be uniform. In no case the height of the course shall be more than any of the courses below it. The face bed and joints shall be hammer or chisel dressed. Thickness of the joint shall not exceed 10mm. Stones shall break joints at least half the height of the course.

Quoins shall be at least 0.5m long, laid square on their levels and beds shall be fair dresses to depth of at least 10mm.

Wood Work:

The areas of doors & windows shutters shall be measured to the nearest cm in closed position covering the rebates of the frame but excluding the gap between the shutter and the frame. Over lap of two shutters shall not be measured. All work shall be measured for finished dimensions. No allowance shall be made for dimensions supplied beyond those specified. Length of each piece shall be measured overall nearest to 1cm, so as to include projections for tenons, scraves or mitres, width and thickness shall be measured to the nearest mm.

Where painting, polishing has been included in the item the same shall be executed as per Architect's directions. Painting shall be two or more coats of approved synthetic enamel plus a coat of fire resistant primer to wood work as approved by Architect and shall conform to BS-476 part 7 for class I surface spread of flame. Preparation of surfaces, fillers, etc. are included. This primer shall also be applied before polishing (i.e. French Spirit Polish). The fire resistant primer shall be measured & paid separately in the relevant item.

5.3 All flush door shutters shall have teak lipping on all edges as directed with extra thickness of lipping of meeting edges of double shutter doors.

Glasses 5.5mm thick or 4mm thick shall respectively weigh not less than 13.75 Kg/Sq m. Or 10 Kg/Sq m.

Bends, stepping and circular shapes in railings are integral part of the rate.

The widths of various rails & styles shall be as described in the items or shown in the drawing.

All aluminium section & fitting used shall be ISI marked.

All screws for fixing of fittings/ fixtures shall be of matching finish.

In case of composite units (M.S. Frame + teak wood shutter) the hold fasts shall be added or fixed with counter sunk machine screws. Also the M.S. frames shall have necessary holes and other arrangement for receiving / fixing of fittings.

Steel work:

6.1 The measurement of railing shall be the length of top wood/ steel section as per situation along the centre line.

18.2 Painting in relation to steel work shall be two or more coats of approved synthetic enamel plus a coat or primer including preparation of surfaces, fillers etc. The priming coat shall be measured & paid separately in the relevant item.

18.3 Painting of top flat shall be done before fixing wooden hand rail section.

18.4 Circular work, bends, stepping are not payable extra.

18.5 In case of steel entrance gate wheels, pintails, tracks, base plates, posts, locking arrangements etc. shall all be compensated by measurement and inclusion of their weights only.

18.6 Concrete required for fixing of gate posts and posts of frames in compound wall shall be allowed for separately.

18.7 Pressed steel door/window frames shall be manufactured from commercial mild steel sheet of 1.25mm thickness, conforming to IS: 226-1962. Each door frame shall consist of hinge jamb, lock jamb, head and if required angle threshold, it also include 100mm M.S. butt hinges 3 Nos. welded to one jamb for single shutter & 6 Nos. hinges for double shutter, Mortar Guards shall be welded in the frame for double shutter, Lock strike plate shall be provided to make provision for locks, shock absorbers shall not be less than three buffers/ rubber or other suitable material, They shall be executed with 3 hold fasts on each leg for door frame, 2 hold fasts on each leg for window frame and the hollow portion shall be filled with lean cement concrete (M 100) simultaneously as the stone work is being constructed.

The length shall be measured in running metres correct to a cm out to out of the frames. The rate shall include the cost of labour & material involved in all the operations described above including one coat of approved steel primer & two coats of synthetic enamel paints.

Flooring:

1 The rates of cement concrete flooring and marble chips flooring are exclusive of dividing strips for formation of panels.

Borders, margins, bands, nosing, etc. are not payable extra. Treads shall be measured as floors, risers as skirting. However, areas of returns (finished thickness), nosing shall be added respective items.

No extra shall be paid for cutting of glazed tiles or for wastage thereof.

Marble/ Kota stone slabs shall be of selected quality, hard & sound and shall be approved by the Architects. The thickness of the slabs shall be specified in the description of the item. Tolerance of ± 2 mm shall be allowed for the thickness. In respect of length & breadth of slabs (Where flooring to be laid) a tolerance of ± 5 mm shall be allowed. Every slab shall be cut to the required size and shape, top waviness shall be removed, the sides (edges) shall be table rubbed with coarse sand or machine rubbed, before paving. All angles of the tiles shall be true equal and free from chipping and the surface shall be true and plane.

Marble slab/ kota slab shall be cleaned, wetted and mopped before laying.

Polishing shall be done by machine in four different courses. Ist course shall be of rubbing with carborundum stone No. 60, the second with No. 120, and the third with No. 320 to get even and smooth surface with out pinholes. Where ever use of machine is not feasible to work, polishing shall be done by hand with No. 60, No. 80 and with No. 120 carborundum stone respectively. Lastly oxalic acid shall be dusted over the surface @ 33 gm per square meter sprinkled with water and rubbed hard with namdah block (pad of wooden rags).

Marble chips, kota stone, marble (all floors, skirting, risers, dado, counter tops, treads) shall finally be polished as directed at no extra cost.

Marble (counter tops) shall be of full width and in single piece upto length of 1.5m / Granite for name- plate shall be in one single piece.

Vitrified Tiles:

1st quality ceramic double charged vitrified tiles of colour standard white, grey, ivory, fume, red brown, light green, light blue, and other light shades with water absorption less than or equal to 0.08% confirming to IS: 13753 & IS: 15622 in floor, steps etc laid on bed on neat cement slurry finished with flush pointing in the white cement mixed with pigment to match the shade of the tile complete (excluding the cost of cement plaster on wall and pillar)

Roofing:

8.1 Waterproofing of roots, sunken slabs, basements and tanks shall be carried out by a specialist to be approved by the Architect. The Contractor and the Sub-contractor shall each furnish a guarantee, in an approved format attached in the tender in respect of effective and successful performance of such treatment for a minimum period of ten years from the date of completion of the works as laid down in the conditions of contract.

Area shall be measured of horizontal surfaces but rate should include rounding and vertical for height upto 30cm.

Making & finishing of rain water outlets shall not be paid extra.

Waterproofing treatment shall be tested by flooding for 24 hours as per Architect's instructions.

If the specialist's specification/ recommendation is different from what is stated in the items the matter shall be resolved with the Architect before proceeding with the work but no extra rate shall be admissible.

Finishing:

Items of plastering apply to all locations including rough sides of walls, curved surfaces, all heights, etc. without limiting generally of para 1.4.

Preparation of surfaces including raking out joints, hacking, brushing, watering, etc. is included.

Drip mouldings shall not be payable extra.

Grooves shall be provided in plaster as directed by Architect at corners of ceiling slabs around the columns & beams at no extra cost.

Strips of G.I. chicken mesh 250mm wide shall be provided in plaster at all junctions (which are flush) between masonry/ columns, masonry /beams.

Sunk or Weather Struck Pointing:

10.1 For all exposed stone work double scaffolding having two sets of vertical support shall be provided. The supports shall be sound & strong, tied together with horizontal pieces over which scaffolding planks shall be fixed.

Mortar of specified mix shall be used with fine sand as per ISI Code.

The joints shall be raked out to such a depth that the minimum depth of the new mortar measured from either the sunk surface of the finished pointing or from the edge of the stone shall not less than 12mm. Dust and loose mortar shall be brushed out of all joints. The surface shall then be washed with water and kept wet before pointing is commenced.

The cement mortar 1:3 proportion shall be well pressed into the joints with a pointed trowel and the tip of the joints shall then be neatly pressed back about 3mm or as directed, with the pointed tool so that the joints are shaped as 'V' The superfluous mortar shall not be spread over the corners, edges and face of the masonry. All superfluous mortar shall be neatly trimmed with a trowel and straight edge. The vertical joints shall be ruled pointed. The junctions of vertical joints with the horizontal joints shall be at true right angles.

The pointing shall be kept wet for seven days. It shall be protected from sun, rain and other factors during the period of curing.

Pointing work shall be measured in sq. Meters. Deduction for jambs, soffits, sills etc. for opening above 0.5 Sq.m. will be made when one face of wall is plastered and other is pointed deduction shall be made from the plaster or pointing on the side of frames for doors, windows etc on which the width of the reveal is less than that on the other side but no deduction shall be made from the other side.

Plaster of Paris Punning (P.O.P.)

If the plaster surface is to be finished with plaster of paris (POP) punning, the surface shall be combed slightly with the wire brushes or nails before it is completely set to form key for plaster of Paris punning. The surface shall be thoroughly cleaned of dust then only damped but not soaked before the application of plaster of paris punning. The Gypsum for preparing punning shall be approved quality. It shall be dry and free from lumps and shall be suitably packed in watertight bags or containers. Paste shall be prepared by adding required quantum of water and it shall be used before it sets. No dropping paste shall be used in the work. Punning shall be applied to the prepared surface with steel trowel to a thickness required to make the surface produce perfectly smooth and even surface working from top to bottom. It shall then be sand papered to give a smooth and even surface. Any unevenness shall be made good by applying putty, made of plaster of paris mixed with water, then sand papering the same after it is dry. Pilling in plaster shall be made good with plaster of paris mixed with colour to be used. The surface shall then be rubbed down again with fine grade sand paper and made smooth. The surface shall be allowed to dry thoroughly before the regular coat of paint is applied. The measurement shall be in square metre.

Plastic emulsion paint:

Plastic emulsion paint shall be of approved manufacture and shall generally conform to IS-5411 (part-I) 1969. The colour and shade of the emulsion shall be got approved by the Architect. Double scaffolding shall be used, ladder if used shall be tied with old gunny bags at top to prevent damage or scratches to the walls. The instructions of the manufacturer shall be followed, in application of priming and finishing coats. Turpentine or any other solvent shall not be used for thinning the paint.

Minimum 3 coats of paint shall be applied inclusive of primer coat. If a proper and even surface is not obtained to the satisfaction of the Architects in 3 coats, Contractor shall carry out additional coats of painting to approval at his expenses. Care shall be taken that dust or other foreign material do not settle or disfigure the various coats. The measurement shall be in square metre.

Water proofing Silicon based painting:

It shall be used on external surface mainly on exposed stone surface by spray equipment. The contractor shall bring the material to the site in their original packing. The containers shall be opened in front of Banks Engineer and used as recommended by the manufactures. The surface shall be free from residues and shall be washed down by brushing and washing with fresh water then allows to dry overnight. The Silicon solution of approved make shall be applied on the clean & dry surface with spraying machine uniformly the second coat shall be applied after first coat has been set for at least 24 hours, before application of the second or subsequent coats the surface of the previous coat shall not be wetted.

Miscellaneous:

14.1 The work of cupboard , cabinets shall be done as per drawings. The depth of cupboards shall be as shown in drawings. The work includes holdfasts and other accessories usually required for complete installation. All inner surfaces shall be painted & outer face polished as per Architects approval.

All exposed cut ends of boards shall be provided with hardwood lippings.

Kail wood to be used shall be of the best available quality.

The joints in cement concrete pavements/ roads shall be formed as per design and pattern. The joints shall be cleaned and neatly filled with 'A' grade sealing compound. Side kerbs shall be made in situ to design and volume paid for in the same item. Required side forms shall not be paid separately.

For whitewashing, colour washing, distempering on sand faced plaster or on rough cast plaster with stone aggregate upto 10mm, only flat single surface will be measured and paid.

In the case of R.C.C. Jallies upto 50mm thick only single flat surface will be considered for each side of painting.

The contractor shall procure cement and steel from the list of approved manufacturers.

The contractor shall submit test report of Tube-well for a) The chemical examination, b) The bacteriological examination, c) yield test, d) sand free water vertical test from competent authority.

SERVICES**1.0 General**

1.1 The drawings for services are diagrammatic but shall be followed as closely as actual construction permits. Any deviations from the drawings shall be in conformity with architectural and structural drawings. The dimensions designated by the manufacturers shall take precedence over the drawings.

At completion of work the Contractor shall submit one set of tracings and two sets of prints of "As-Built-Drawings". These drawings shall, among others, include invert levels, pipe runs, diameters, location of valves, access panels, layout of equipment, piping connection and such other information for maintenance & future extensions. Guarantees given by manufactures shall be assigned to the Employer along with names & addresses of manufacturers, suppliers and information about spare parts.

All site test shall be carried out with prior intimation to the Banks Engineer. All defects shall be rectified and tests conducted again to the satisfaction of the Banks Engineer. In addition to the test required by the specifications, the Contractor shall also conduct tests required by the Architect and by the municipal or other Authorities.

All work shall be executed by competent and licensed persons. The contractor shall maintain liaison with Municipal and other controlling Authorities. He shall obtain their approvals and certificates as required by the by-laws at appropriate stages.

No cutting/ chasing shall be done in load bearing structural members without prior approval of the Banks Engineer. Sleeves and openings shall be provided during the progress of construction in preference to cutting at later date.

The architect may require typical mock up(s) to be installed in advance for approval. Undamaged materials from the mock up shall be allowed to be reused in the work. Unless otherwise described in the CI/ SCI pipes and fittings shall be a spigot and socket type.

G.I. Pipe spouts shall be paid as per item of G.I. Pipes (internal work). Cutting and making good is included. The free ends may be skew-cut. Wherever use of G.I. Pipes is called for the same shall be medium class (Class-B).

2.0 Materials:

2.1 The materials shall conform to the specifications and in absence thereof to Indian Standards. The products should bear the ISI Mark.

2.2 The makes of materials for use in this work are broadly approved as per list given below. The Contractor shall however, get particular makes and samples approved before ordering:

2.3 Notwithstanding any interim or final approval the Contractor remains responsible for satisfactory performance of all fittings & fixtures. The liability of the Contractor is not limited by any approval of the make of materials.

2.4 The item rate of mirror includes extra packing piece of AC plain sheet, where required due to off set between plaster & glazed tiles surface.

3.0 Testing

The sand cast iron soil, waste and vent pipes and fittings including joints shall be tested by pumping smoke into the pipe at the lowest end.

All G.I. Pipes and fittings including joints shall be tested to hydraulic pressure of 6 kg/ cm² (60 meter) avoiding water hammer. The test pump having been stopped the test pressure should maintain without loss for at least half an hour. The pipes and fittings shall be tested in sections as the work of laying proceed keeping the joints exposed for inspection during the testing. All stone ware pipes shall be tested with water pressure of 1.5m head of water at the highest point of the section under test.

UNIT WEIGHTS OF REINFORCING BARS TO BE ADOPTED

Sr No.	Nominal size of the bar in mm	Unit weight of kg per meter
1	6	0.222
2	8	0.395
3	10	0.617
4	12	0.888
5	16	1.579
6	18	1.999
7	20	2.467
8	22	2.985
9	25	3.855
10	28	4.836
11	32	6.316
12	36	7.994

TECHNICAL SPECIFICATIONS FOR SANITARY & PLUMBING WORKS

Section I General Requirements

1. Scope of work 1.1 The form of Contract shall be according to the "Conditions of Contract". The following clauses shall be

considered as an extension and not in limitation of the obligation of the Contractor.

1.2 Work under this Contract shall consist of furnishing all labour, materials, equipment and appliances necessary and required. The Contractor is required to completely furnish all the plumbing and other specialised services as described hereinafter and as specified in the schedule of quantities and/ or shown on the plumbing drawings.

1.3 Without restricting to the generality of the foregoing, the sanitary installations shall include the following:-

A. Plumbing Works - Sanitary Fixtures - Soil, Waste, Vent, Rainwater Pipes & Fittings - Water Supply System - Sewerage & Storm Water Drainage

B. Fire Suppression Works - Down Comer/ Wet Riser System - Hand Appliances - Fire Pumps & Allied Equipments

1.4 Services rendered under this section shall be done without any extra charge.

2. Specifications 2.1 Work under this Contract shall be carried out strictly in accordance with latest specifications of the Central Public Works department with up to date amendments as applicable in the contract attached with the tender.

2.2 Items not covered under above (CPWD) specifications the work shall be carried out as per specifications given below and or as per good engineering practice.

2.3 Works not covered under para 2.1 and 2.2 shall be carried out as per relevant Codes & Bureau of Indian Standards .

3. Execution of work 3.1 The Contractor should visit and examine the site of work and satisfy himself as to the nature of the existing roads and other means of communication and other details pertaining to the work and local conditions and facilities for obtaining his own information on all matters affecting the execution of work. No extra charge made in consequence of any misunderstanding, incorrect information on any of these points or on ground of insufficient description will be allowed.

3.2 The work shall be carried out in conformity with the Plumbing drawings and within the requirements of architectural, HVAC, electrical, structural and other specialised services drawings.

3.3 The Contractor shall cooperate with all trades and agencies working on the site. He shall make provision for hangers, sleeves, structural openings and other requirements well in advance to prevent hold up of progress of the construction schedule. All supports to the civil structure shall be provided with dash fasteners.

3.4 On award of the work, Contractor may asked to submit a schedule of construction in the form of a PERT chart or BAR chart for approval of the Project Architect/ Consultant. All dates and time schedule agreed upon shall be strictly adhered to within the stipulated time of completion/ commissioning along with the specified phasing, if any.

4. Drawings 4.1 Contract drawings are diagrammatic but shall be followed as closely as actual construction permits. Any

deviations made shall be in conformity with the architectural and other services drawings.

4.2 Architectural drawings shall take precedence over plumbing or other services drawings as to all dimensions.

4.3 Contractor shall verify all dimensions at site and bring to the notice of the Project Architect all discrepancies or deviations noticed. Decision of the Project Architect shall be final.

4.4 Large size details and manufacturers dimensions for materials to be incorporated shall take precedence over small over small scale drawings.

4.5 Any drawings issued by the Architects/ Consultant for the work are the property of the Architects/ Consultant and shall not be lent, reproduced or used on any works other than intended without the written permission of the Architects/ Consultant.

5. Inspection and testing of materials 5.1 Contractor shall be required, if requested, to produce manufacturers test

certificate for the particular batch of materials supplied to him. The tests carried out shall be as per the relevant Bureau of Indian Standards.

5.2. For examination and testing of materials and works at the site Contractor shall provide all testing and gauging equipment necessary but not limited to the following:

a) Steel tapes b) Weighing machine c) Plumb bobs, spirit levels, hammer d) Micrometers e) Hydraulic machine

5.3 All such equipment shall be tested for calibration at any approved laboratory, if required by the Project Architect. All testing equipment shall be preferable located in special room meant for the purpose.

5.4 Samples of all materials shall be got approved before placing order and the approved samples shall be deposited with the Project Architect.

6. Contractor's rates 6.1 Rates quoted in this tender shall be inclusive of cost of materials, labour, supervision, erection, tools, plant, scaffolding, service connections, transport to site, taxes, octroi and levies, breakage, wastage and all such expenses as may be necessary and required to completely do all the items of work and put them in a working condition.

6.2 Rates quoted are for all heights and depths and in all positions as may be required for this work.

6.3 All rates quoted must be for complete items inclusive of all such accessories, fixtures and fixing arrangements, nuts, bolts, hangers as are a standard part of the particular item except where specially mentioned otherwise.

6.4 All rates quoted are inclusive of cutting holes and chases in walls and floors and making good the same with cement mortar /concrete/ water proofing of appropriate mix and strength as directed by the Project Architect. Contractor shall provide holes, sleeves, recesses in the concrete and masonry work as the work proceeds. All hot and cold water supply pipes crossing masonry walls shall be provided with G.I. pipe sleeves. The annular space between the pipe and sleeve shall be filled up with fire proof sealant after testing. Contractor shall give the pipe sleeves to the civil contractor well in time so that the same can be fixed along with civil works. Any co-ordination gap shall be of contractor's responsibility.

6.5 The Contractor shall furnish the Project Architect with vouchers & test certificates, on request, to prove that the materials are as specified and to indicate that the rates at which the materials are purchased in order to workout the rate analysis of non tendered items which he may be called upon to carryout.

7. Cutting of Water Proofing Membrane:

No walls terraces shall be cut for making and opening after water proofing has been done without written approval of Project Architect. Cutting of water proofing membrane shall be done very carefully so as other portion of water proofing is not damaged. On completion of work at such place the water proofing membrane shall be made good and ensured that the opening/ cutting is made fully water proof as per specifications and details of water proofing approved by Project Architects.

8. Cutting of structural members

No structural member shall be chased or cut without the written permission of the Project Architect.

9. Materials 9.1 Unless otherwise specified and expressly approved in writing by the Project Architect, only materials of makes and specification as mentioned in the list of approved makes attached with the specifications shall be used.

9.2 If required, the Contractor shall submit samples of materials proposed to be used in the works.

Approved samples shall be kept in the office of the Project Architect.

Section II Sanitary Fixtures

1. Scope of Work 1.1 Work under this section consist of furnishing all materials & labour necessary and required to completely install all sanitary fixtures, chromium plated fittings and accessories as required by the drawings specified hereinafter and given in the Schedule of Quantities.

1.2 Without restricting to the generality of the foregoing the sanitary fixtures shall include the following:-

a) Sanitary fixtures b) Chromium plated fittings c) Porcelain or stainless steel sinks d) Accessories e.g. towel rods, toilet paper holders, soap dish, towel rails, coat hooks etc. e) Connections to all kitchens, equipment, pump headers and other equipment requiring water

and drainage connections.

1.3 Whether specifically mentioned or not all fixtures and appliances shall be provided with all fixing devices, nuts, bolts, screws, hangers as required.

1.4 All exposed pipes within toilets and near fixtures shall be chromium plated brass or copper unless otherwise specified.

2. General requirements 2.1 All fixtures and fittings shall be provided with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the Schedule of Quantities, specifications, drawings. Accessories shall include proper fixing arrangement, brackets, nuts, bolts, screws and required connection pieces, WC flexible connectors etc.

2.2 Fixing screws shall be half round head chromium plated brass screws with C.P. washers where necessary.

2.3 Contractor shall furnish without cost all such accessories and fixing devices that are necessary and required but not supplied along with the Plumbing Fixtures & CP Fittings by the manufactures as a part of the original and standard supply.

2.4 All fittings and fixtures shall be fixed in a neat workmanlike manner true to level and heights shown on the drawings and in accordance with the manufacturer's recommendations. Care shall be taken to fix all inlet and outlet pipes at correct positions. Faulty locations shall be made good and any damage to the finished floor, tiling or terrace shall be made good at Contractor's cost.

2.5 Contractor shall seal all fixtures fixed near wall, marble and edges with an approved type of poly-sulphide sealant appropriate for its application.

3. European W.C. 3.1 European W.C. shall be wash down or symphonic type floor or wall mounted set flushed by means of porcelain/ plastic flushing cistern or concealed type flush valves/ cisterns, which will be an integral part of the WC system. Where applicable flush pipe/ bend shall be connected to the W.C. by means of a suitable rubber adaptor. Wall hung W.C. shall be supported by C.I. floor mounted chair.

3.2 Each W.C. set shall be provided with a plastic seat shall be with rubber buffers and chromium plated hinges.

3.3 Plastic seat shall be so fixed that it remains absolutely stationary in vertical position without falling down on the W.C. Each W.C. shall be suitable for flushing in low volume of water 3-6 litres.

3.4 Flushing cistern when provided shall be provided with all internal flushing mechanism, 15 mm dia ball cock with unbreakable polythene float and overflow pipe. Any frame work required for fixing cistern has to be provided by the contractor.

3.5 Indian W.C.

Indian Water closet (IWC) shall be provided with 'P' or 'S' trap outlet with a low volume cistern porcelain/ plastic-flushing cistern with all internal flushing mechanism.

Flush pipe/bend shall be connected to IWC by means of a suitable rubber adaptor.

3.6 Urinals 3.6.1 Urinals shall be white glazed vitreous china of size, shape and type specified in the Schedule of Quantities.

3.6.2 Bowl urinals shall be provided with 15mm dia C.P. spreader, 32mm dia stainless steel domical waste and

C.P. cast brass bottle trap with pipe and wall flange or items as supplied by the manufacturer, and shall be fixed to wall by C.I. brackets and C.I. wall clips as recommended by manufacturers complete as directed by Project Architect.

3.6.3 Urinals shall be fixed with C.P. brass screws and shall be provided with 32mm dia domical waste leading to urinal's trap.

3.6.4 Flush pipes shall be G.I. Pipes concealed in wall chase but with chromium plated bends at inlet and outlet or as given in Schedule of Quantities.

3.6.5 Urinals shall be flushed by means of fully automatic no-touch flush valve with solenoid valves as specified in the schedule of quantities.

3.6.6 Waste pipes for urinals shall be G.I. Pipes (Medium class) to IS: 1239 or uPVC class III (6 kg/sqcm) conforming to IS:4985 as given in schedule of quantities. Waste pipes may be exposed on wall or concealed in chase as directed by the Project Architect. Specifications for waste pipes shall be same as given in Section II.

3.7 Lavatory basin 3.7.1 Lavatory basins shall be white glazed vitreous china of size, shape and type specified in the Schedule of Quantities.

3.7.2 Each basin shall be provided with brackets and clips of approved and securely fixed. Placing of basins over the brackets without secure fixing shall not be accepted.

3.7.3 Each basin shall be provided with 32mm dia C.P. waste with overflow, pop-up waste or rubber plug and chain as specified in the Schedule of Quantities, 32mm dia C.P. brass bottle trap with C.P. Pipe to wall and flange.

3.7.4 Each basin shall be provided with pillar tap fitting, single lever mixer or as specified in the Schedule of Quantities.

3.7.5 Basins shall be fixed at proper heights as shown on drawings. If height is not specified, the rim level shall be 79 cms or as directed by Project Architect.

3.8 Sinks 3.8.1 Sinks shall be stainless steel or any other material as specified in the Schedule of Quantities.

3.8.2 Each sink shall be provided with brackets of approved and securely fixed. Counter top sinks shall be fixed with suitable brackets or clips as recommended by the manufacturer. Each sink shall be provided with 40mm dia C.P. waste with chain and plug as given in the Schedule of Quantities. Fixing shall be done as directed by Project Architect.

3.8.3 Supply fittings for sinks shall be mixing fittings or C.P. taps as specified in the Schedule of Quantities.

3.9 Hand Drier 3.9.1 The hand drier shall be no touch operating type with solid state time delay to allow user to keep hand in any position.

3.9.2 The hand drier shall be fully hygienic, rated for continuous repeat use.

3.9.3 The rating of hand drier shall be such that time required to dry a pair of hands upto wrists is approximately 30 seconds.

3.9.4 The hand drier shall be wall mounting type suitable for 230 volts, single phase, 50Hz, A.C. power supply.

3.10 Toilets for Disabled (Where specified) 3.10.1 Where specified in washroom facilities designed to accommodate physically handicapped, accessories should be provided as directed by the Project Architect.

3.10.2 Stainless steel grab bars of required size suitable for concealed or exposed mounting and non-slip gripping surface shall be provided in all washrooms to be used by physically handicapped as directed by the Project Architect.

3.11 Accessories 3.11.1 Contractor shall install all chromium plated and porcelain accessories as shown on the drawings or

drawings or directed by the Project Architect.

3.11.2 All C.P. or S.S. accessories shall be fixed with C.P. brass half round head screws and cup washers in wall with rawl plugs or nylon sleeves and shall include cutting and making good as required or directed by Project Architect.

3.11.3 Recessed porcelain accessories shall be fixed in walls and set in cement mortar 1:2 (1 Cement : 2 Coarse sand) and fixed in relation to the tiling work as per Architects drawings.

3.12 Urinal partitions 3.12.1 Urinal partitions shall be white glazed vitreous china, marble, granite or any other material selected by the Project Architect.

3.12.2 Urinal partitions shall be fixed at proper heights with C.P. brass bolts, anchor fasteners and M.S. Clips as recommended by the manufacturer and directed by Project Architect.

3.13 Measurement

3.13.1 Sanitary fixtures and accessories shall be measured by numbers in the unit given in the Schedule of

Quantities. 3.13.2 Rates for all items shall be inclusive of cutting holes and chases and making good the same, C.P. Brass screws, nuts, bolts and any fixing arrangements required and recommended by manufacturers, testing and commissioning.

Section III Soil, Waste, Vent & Rainwater Pipes & Fittings

All works shall be done as per CPWD Specifications of works with up to date revisions.

1. Scope of work 1.1 Work under this section shall consist of furnishing all labour, materials, equipment and appliances necessary and required to completely install all soil, waste, vent and rainwater pipes and fittings as required by the drawings, and given in the Schedule or Quantities.

1.2 Without restricting to the generality of the foregoing, the soil, waste, vent pipes system shall include the following:-

a) Vertical and horizontal soil, waste, vent pipes, and fittings, joints, clamps, connections to fixtures. c) Connection of all pipes to sewer lines as shown on the drawings at ground floor levels. d) Drainage, channels, gratings & floor drains. e) Floor and urinal traps, cleanout plugs, inlet fittings and rainwater heads/ Khurras. f) Testing of all pipe lines.

2. General requirements 2.1 All materials shall be new of the best quality conforming to specifications and subject to the approval of

Project Architect.

2.2 Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.

2.3 Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.

2.4 Pipes shall be securely fixed to walls and ceilings by suitable clamps intervals specified.

2.5 Access doors for fittings and clean outs shall be so located that they are easily accessible for repair and maintenance. Any access panel required in the civil structure, false ceiling or marble cladding etc. shall be clearly reported to the Owner's in the form of shop drawing so that other agencies are instructed to provide the same.

3. Piping System 3.1 Schedule of Pipes Use

1. Centrifugally Cast spun iron S&S Pipes Vt. stacks for Soil, Waste & Vent Pipes As per I.S. 3989

2. G.I. Pipes conforming to IS 1239 Waste lines for Wash basin, Urinal, (Medium/ Heavy class as specified) Floor drain & Sink.

3. Centrifugally Caste spun Iron S&S Pipes Main headers at basement ceiling level, lead joints.

4 Centrifugally Cast spun iron S&S Pipes Rain Water Pipes.

5. G.I. Pipes conforming to IS 1239 Main headers at 1st basement ceiling level,
(Medium Class) Sump Rising Main

Or (If specified in the schedule of quantities)

1A. uPVC pipes 75, 110 & 160 mm dia Vt. Stacks for Soil, Waste and Vent Pipes

(O rings joints SWR system IS 13592)

2A uPVC Pipes 40, 50 & 63 mm OD Waste lines for Wash basin, Urinal,

(welded joints) 6 kg/ sqcm class III Floor drain & sink

3A Centrifugally Cast spun/ Main headers at basement ceiling level,

CI (Class LA) pipes to IS 1536 lead joints.

3.1 Soil, Waste & Vent Pipes a) The Soil & Waste Pipe System above ground has been planned as a "two pipe system" as defined in IS: 5329 having separate pipes for waste for kitchen sinks, showers, washbasins AHU's condensate drains and floor drains and is approved by Project Architect.

b) All waste water from AHU/s plant and pump rooms, floor channels as the case may be will be provided with a deep seal trap before connecting to the main drain or vertical stack.

c) Vertical soil & waste stacks shall be connected to a separate horizontal drain at basement ceiling or ground floor generally as shown on the drawings.

d) Toilet layouts have been so arranged that the W.C. outlets shall be with "P" trap above ground wherever possible.

e) If required all soil/ waste from areas in Basement lower than outside ground areas will be collected in sumps shall be pumped into sewer line.

b) Head (Starting point) of drains and sewage/ Waste Water Sumps (as and where applicable) having a length of greater than 4m upto its connection to the main drain or manhole shall be provided with a 50/75/100mm vent pipe terminating above roof or as directed by Project Architect.

3.2 Rainwater Pipes

a) All open terraces shall be drained by rain water down takes.

b) Rainwater down takes are separate and independent of the soil and waste system and will discharge into the open ground Storm water Drainage system of the Complex.

c) Rain water in open courtyards shall be collected in catch basins and connected to the storm water drain.

d) Any dry weather flow from waste appliances e.g. AHU's pump rooms, waste water sumps shall connect to sewers after traps and not in the storm water drainage system.

3.3 Balcony/ Planter drainage

Wherever required, all balconies, terraces, planters and other formal landscape areas will be drained by vertical down takes or other type of drainage system shown on the drawings and directed by the Project Architect.

3.4 Technical Specifications 3.4.1 Cast Iron Pipes & Fittings (For Soil, waste, Anti-siphonage and Rain Water Pipes)

All works shall be done as per CPWD Specifications of Works with up to date revisions.

3.4.2 Floor trap inlet (G.I. Extension Piece)

Bath room traps and connections shall ensure free and silent flow of discharging water. Where specified, Contractor shall provide a special type inlet fitting fabricated from G.I. pipe without, with one, two or three inlet sockets welded on side to connect the waste pipe. Joint between waste and hopper inlet socket shall be lead caulked. Inlet shall be connected to a C.I. P or S trap. Floor trap inlet hoppers and the traps shall be set in cement concrete blocks as specified in para above without extra charge.

3.4.3 Floor Traps and Gratings

Floor and urinal traps shall be deep seal type with socket on top and shall be provided with 100-150mm square or round C.P./ Stainless Steel grating, with rim of approved design and shape. Minimum thickness shall be 4mm or as specified in the Schedule of Quantities. Large size gratings required for rain water pipes shall be fabricated as per site conditions.

3.4.4 Cleanout Plugs (on soil pipes)

a) Clean out plug for Soil, Waste or Rainwater pipes laid under floors shall be provided near pipe junctions bends, tees, "Ys" and on straight runs at such intervals as required as per site conditions. Cleanout plugs shall terminate flush with the floor levels. They shall be threaded and provided with key holes for opening. Cleanout plugs shall be Cast Brass suitable for the Pipe dia. with screwed to a G.I. socket. The socket shall be lead caulked to the drain pipes.

b) Cleanout on Drainage Pipes : Cleanout plugs shall be provided on starting point of each drain and in between at locations indicated on plans or directed by the PMC. Cleanout plugs shall be of size matching the full bore of the pipe but not exceeding 150mm dia. CO Plugs on drains of greater diameters shall be 1540mm dia. Fixed with a suitable reducing adapter.

c) Cleanouts at ceiling level pipe shall be provided with a bend terminating at floor level above. The brass plug shall be screwed type flush with the floor.

Section IV Water Supply System

1. Scope of Work

1.1 Work under this section consists of furnishing all labour, materials equipment and appliances necessary and required to completely install the water supply system as required by the drawings, specified hereinafter and given in the Schedule of Quantities.

1.2 Without restricting to the generality of the foregoing, the water supply system shall include the following:-

a) Distribution system from main supply headers from pump/ main lines to all fixtures and appliances for cold & hot water.

b) Excavation and refilling of pipes trenches. c) Insulation to hot water pipes. d) Pipe protection and painting. e) Control valves, masonry chambers and other appurtenances. f) Connections to all plumbing fixtures, tanks, appliances and municipal mains.

2. General Requirements 2.1 All material shall be new of the best quality conforming to specifications. All works executed shall be to

the satisfaction of the Project Manager.

2.2 Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.

2.3 Short of long bends shall be used on all main pipe lines as far as possible. Use of elbows shall be restricted for short connections.

2.4 Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.

2.5 Pipes shall be security fixed to walls and ceilings by suitable clamps at intervals specified.

2.6 Clamps, hangers and supports on RCC walls, columns & slabs shall be fixed only by means of approved made of expandable metal fasteners inserted by use of power drills.

2.7 All pipe clamps, supports, nuts, bolts, washers shall be galvanised MS steel throughout the building. Painted MS clamps & MS nuts, bolts & washers shall not be accepted.

2.8 Valves and other appurtenances shall be so located as to provide easy accessibility for operations, maintenance and repairs.

3. Water Supply System 3.1 All works shall be done as per CPWD Specifications of works with up to date revisions.

3.1.1 Source : Water supply will be acquired from authorities main distribution net work available in the area and a captive tube well (with prior permission from authorities) within the site and collected in water storage tanks located underground.

3.1.2 The system has been connected to a variable speed hydro-pneumatic down feed system from over head tanks to all parts of the building.

3.1.3 It is proposed to provide flush valves/ flushing cistern for all WCs. Infra red NO-TOUCH flush valves shall be provided for Urinals, These will be fed from flushing water available from STP recycled water.

3.1.4 Domestic water supply shall be provided with cold water and hot water supply as shown on the drawings. Hot water provisions are limited to mainly kitchen and toilets for guest rooms connected to a local electric hot water storage geyser.

4.0 G.I. Pipes and Fittings 4.1 All pipes concealed in walls, exposed on ceiling or terrace, buried in ground, vertical risers from pumping main to overhead tanks and where specified, outside the building shall be galvanized steel tubes conforming to I.S. 1239 of class specified. When class is not specified they shall be heavy class.

4.2 All works shall be done as per CPWD Specifications of works with up to date revisions.

5. Valves 5.1 Bal Valves

Valves upto 40 mm dia. shall be screwed type Ball Valves with stainless steel balls, spindle, teflon seating and gland packing tested to a hydraulic pressure of 20 kg/cm², and accompanying couplings and steel handles. (to BS 5351).

5.2 Butterfly Valves 5.2.1 Valves 50mm dia and above shall be cast iron butterfly valve to be used for isolation. The valves shall be bubble tight, resilient seated suitable for flow in either direction and seal in both direction with accompanying flanges and steel handle.

5.2.2 Butterfly valve shall be of best quality conforming to IS: 13095.

5.3 Not Return Valve (Slim Type)

Where specified non return valve (swing check type) shall be provided through which flow can occur in one direction only. It shall be single door swing check type of best quality.

5.3.1 Each Butterfly and Slim Type Swing Check (NRV) Valve shall be provided with a pair of flanges screwed to the main line and having the required number of galvanised nuts, bolts and washers of correct length.

5.4 Storage Tanks 5.4.1 Underground or Over head tanks

Storage tanks for water supply shall be reinforced cement concrete.

Each tank shall be provided with lockable type manhole cover fabricated from M.S. Sheet or standard cost iron tank covers. Manhole covers shall be 450-500 mm dia or as approved by local municipal authority.

5.5 Outlets and overflow

All nozzles for puddle flanges in RCC tank for the contractor shall provide inlet, outlet, overflow and scour etc. or as given in the Schedule of Quantities.

Section V DRAINAGE (Sewers & Storm Water Drains)

1. Scope of Work 1.1 Work under this section shall consist of furnishing all labour, materials, equipment and appliances necessary and required to completely install all the drainage system as required by the drawings and specified hereinafter or given in the Schedule of Quantities.

1.2 Without restricting to the generality of the foregoing, the drainage system shall include:-

a) Sewer lines including excavations, pipe lines, manholes, drop connections and connections to the municipal sewer.

b) Storm water drainage, excavation, pipe lines, manholes, catch basins, drain channels, recharging pits and overflows to municipal drain.

2. General requirements 2.1 All Materials shall be new of the best quality conforming of specifications and subject of the approval of

the Project Architect. 2.2 Drainage lines and open drains shall be laid to the required gradients and profiles. 2.3 All drainage work shall be done in accordance with the local municipal bye-laws. 2.4 Contractor shall obtain necessary approval and permission for the drainage system from the municipal

or any other competent authority. 2.5 Location of all manholes, etc. shall be as per site plan drawings. No drains or sewers shall be laid in the

middle of road unless otherwise specifically shown on the drawings or directed by the Project Architect.

3. All works shall be done as per CPWD Specifications of works with up to date revisions.

Section VI Pipe Colour Code

This Colour Code is as per I.S. 2379.

Ground Colour 1st Colour Band 2nd Colour band

Proportional width of band 4:1 Note:- Arrow indicating the direction of flow.

Pipe lines Ground Colour 1st Colour 2nd Colour

Band Band

1. Drinking Water

(all cold water Sea green French blue Signal red lines after filter)

2. Treated Water Sea green Light orange

(Soft water)

3. Domestic hot Sea green Light grey

water

4. Drainage Black

Sewer / SWD

5. Fire Services Fire red

This Colour Code is as per I.S. 2379.

Final design for colour coding will be OWNER's only

LIST OF MATERIALS OF APPROVED BRANDS (CIVIL WORKS)

NOTE: The Contractor shall quote for the best of the materials as specified below. The Contractor shall obtain prior approval from Architect/SBIIMS before placing order for the specific materials / agencies. In case of non-availability of any of the approved/ specified materials/ Agency, during the execution of the work, the Architects may approve suitable equivalent brand / Agency and his decision shall be final and binding on the contractor and the price variations, if any, shall be adjusted accordingly.

MATERIALS

BRAND NAME

1. Cement :	J.K. ACC, Ultratech, Birla Ultra, Ambuja ShreeCement
2. Steel :	Steel manufactured by the main producers namely SAIL, IISCO and Rashtriya Ispat Nigam and Tisco, Jindal, Rathi
3. White Cement :	J.K. , Birla
4. Vitrified Tiles :	First quality tiles of H.R. Johnson, Marbonite, Somany, Kajaria, Nitco
5. White / Coloured Ceramic Tiles:	First quality tiles of H.R. Johnson, Somani, Kajaria
6. Teak particle boards:	Duro, Alpro (Premium), Archid Greenply, Kitply.
7. Flush Door :	Greenply, Archidply, Alpro (Premium).
8. Pre Laminated Particle Board :	Merino, Century, Green
9. Aluminium sections :	Hindalco, Jindal.
10. Hardners :	'Ironite'
11. Paint & distempers :	'Asian', Berger, ICI, Dulux, Nerolac
12 Fire resistant Primer :	Viper
13. Synthetic enamel paint :	Nerolac, Asian, ICI, Dulux
14. Red Oxide :	Asian, Berger, Jenson & Nicholson.
15. Waterproof Cement Paint :	Acrocem, Cement Paint of Berger/ Asian.
16. Hardware :	Dorma , Hettich, Godrej
17. Door closers, floor springs :	Dorma , Hettich, Godrej
18. Silicon Paint :	Nerolac, Asian, ICI, Bombay Paint, Pidilite.
19. Textured paint :	Spectrum, Hymen, ACRO Textures.
20. Plastic emulsion paint :	Berger, Dulux (ICI), Asian.
21. Rolling shutter :	Raymus, Rama or equivalent.
22. Locks :	Godrej , Doorset.
23. Glass panes :	Asahi / Sait Gobain
24. ACP :	Vista, Alucobond .

LIST OF MATERIALS OF APPROVED BRANDS (SANITARY & PLUMBING)

S.No.	Materials	I.S.No.	Make	Manufacturer
1.	Vitreous China Wares			Parryware , Jaquar,Cera
2.	C.P. Brass Fittings			Jaquar
	Toilet accessories			Jaquar

	Wash room Stainless steel Panels Cockroach Traps & SS Gratings			Euronics
3.	Hand Drier			Euronics
4.	Urinal Flushing System			Parry ware/ Jaguar/ Euronics
5.	Kitchen Sink			Nirali / Neelkanth
6.	Liquid Soap/Paper Towel Dispenser			Euronics
7.	Geyser			ISEA - Enmax /Idropi/ Venus/ Racold
8.	Spun Cast Iron Pipes & Fittings	3989		NECO/ Kapilansh Dhatu Udyog
9.	uPVS (SWR)	13596		Supreme Industries Mumbai Prince Industries, Mumbai Finolex Pipes
10.	Sand Cast Iron / Spun Cast Iron	1729	NECO Kapilansh RIF	Jayaswals Neco Ltd F-8, MIDC Ind. Area Raj Iron Foundries Agra
11.	G.I. Pipes/ M.S. Pipes	1239/ 3589		Tata Jindal Hisar Parkash Surya
12.	G.I. Pipe Jointing material PP-R Pipes and fittings	DIN 8077 DIN 16962		Loctitte/ Dr. Fixit-Pidilite DIZAYN / Savior Faire Merchandising Co New Rohtak
Rd. (East)				Prince Pipe and Fittings. Andheri Mumbai Supreme Industries Andheri (West) Mumbai.
13.	CPVC. Pipes and fittings	Noveon		Flow guard Astral/ Ajay Ashirwad
14.	G.I. Fittings (malleable cast iron)	1879		UNIK/ DRP
15.	Check Valves (Slim type)			Advance Sant / Zoloto
16.	Butterfly Valve			Audco Advance/ SKF Kartar/ Sant/ Zoloto
17.	Ball Valves (15 to 40 mm)			CIM/ Zoloto/ VB/ Sant
18.	Stoneware Pipes & Gully	651		Perfect Traps

19.	R.C.C. Pipes	458	Anand Jain Spun Pipe Dewan Spun Pipe Pragati Udyog
20.	C.I. Manhole Cover & frame	1726	NECO RIF
21.	SFRC Manhole & Road Gully	KK	KK Manholes Chamber Covers/ Grating Gratings Pvt. Ltd.
		SFP	Steel Fibre Products Pitampura, Delhi
22.	Hot water Insulation		Thermafex Kaiflex
23.	Anti Corrosive Tape for pipe Protection	PYPKOTE	IWL India Ltd. Chennai
24.	uPVC Pressure Pipes		JAIN
25.	Anticorrosive Bitumastic Paint		Shalimar
26.	Epoxy Paint		MRF/ Berger/ J&N

Signature & Seal of the Contractor