

**Name of work: - Construction of Maternity Home Chandiwala after dismantling of old building in Ward No. 247 Shahdara (North).**

**CHAPTER –**

**TECHNICAL BID**

**(TECHNICAL BID)**

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BID**

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## TECHNICAL BID

### **1.0 Initial criteria for eligibility**

1.1 The Bidder should have satisfactorily completed during the last Seven years ending last day of the month. For this purpose cost of work shall mean gross value the completed work including cost of material supplied by the Government/Client but excluding those supplied free of cost.

This should be certified by an officer not below the rank of Executive Engineer/Project Manager or equivalent.

(i) Three similar works each costing not less than Rs.187.10 Lacs, or completed two similar works each costing not less than Rs.280.65 Lacs, or completed one similar work costing not less than Rs. 374.20 Lacs.

and

(ii) One work of any nature (either part of (i) above or a separate one) costing not less than Rs. 187.10 Lacs with some Central/State Government/Central Autonomous Body/Central Public Sector Undertaking.

### **Similar work shall mean works of Construction of Building with HVAC.**

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7 % per annum; calculated from the date of completion to last date of receipt of applications for tenders. ***(Added vide OM/MAN/160)***

\* the “month” shall be the month previous to one in which the bids are invited.

1.2 At the time of purchase of tender, the tenderer shall have to furnish an affidavit as under:

“I/We undertake and confirm that eligible similar work(s) has /have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of

Department, then I/We shall be debarred for tendering in EDMC contracts in future forever. Also, if such a violation comes to the notice of Department before date start of work, the Engineer-in- Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.”

***(Added as per OM/MAN/211)***

1.3 The bidder should have had average annual financial turn over (gross) of Rs. 140.325 Lacs on Civil construction works during the immediate last three consecutive

financial years. This should be duly audited by a Chartered Accountant. Year in which no turnover is shown would also be considered for working out the average.

1.4 The bidder should not have incurred any loss in more than two years during the immediate last five consecutive financial years, duly certified by the Chartered Accountant.

1.5 The bidding capacity of the contractor should be equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula:

$$\text{Bidding Capacity} = [A \times N \times 2] - B$$

Where,

A = Maximum value of construction works executed in any one year during the last five years taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of work for which bids has been invited.

B = Value of existing commitments and on going works to be completed during the period of completion of work for which bids have been invited.

1.6 The bidder should have a solvency of Rs. 187.10 Lac certified by his Bankers.

1.7 The bidder should own constructions equipment as per list required for the proper and timely execution of the work. Else, he should certify that he would be able to manage the equipment by hiring etc., and submit the list of firms from whom he proposes to hire.

1.8 The bidder should have sufficient number of Technical and Administrative employees for the proper execution of the contract. The bidder should submit a list of these employees stating clearly how these would be involved in this work.

1.9 The bidder's performance for each work completed in the last Seven years and in hand should be certified by an officer not below the rank of Executive Engineer or equivalent and should be obtained in sealed cover.

## **2.0 Evaluation criteria**

2.1 The detailed submitted by the bidders will be evaluated in the following manner:

1.1.1 The initial criteria prescribed in para 1.1 to 1.5 above in respect of experience of similar class of works completed, bidding capacity and financial turn over etc. will first be scrutinized and the bidder's eligibility for the work be determined.

2.1.2 The bidders qualifying the initial criteria as set out in para 1.1 to 1.5 above will be evaluated for following criteria by scoring method on the basis of details furnished by them.

- |   |                  |
|---|------------------|
| (a) Financial strength (Form 'A' & 'B')<br>marks                              | Maximum 20       |
| (b) Experience in similar nature of work during last five years<br>(Form 'C') | Maximum 20 marks |
| (c) Performance on works (Form 'E') – Time over run                           | Maximum 20 marks |
| (d) Performance on works (Form 'E') – Quality<br>marks                        | Maximum 15       |
| (e) Personnel and Establishment (Form "F"&"G")<br>marks                       | Maximum 10       |
| (f) Plant & Equipment (Form "H")<br>marks                                     | Maximum 15       |

**Total** **100 marks**

**To become eligible for short listing the bidder must secure at least fifty percent marks in each and sixty percent marks in aggregate.**

The department, however, reserves the right to restrict the list of such qualified contractors to any number deemed suitable by it.

2.2 Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:

- (a) Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document,
- (b) Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.

### **3.0 Financial information**

Bidder should furnish the following financial information:

Annual financial statement for the last five year in( Form “A”) and solvency certificate in (Form “B”)

### **4.0 Experience in works highlighting experience in similar works**

4.1 Bidder should furnish the following:

(a) List of all works of similar nature successfully completed during the last seven years in (Form “C”).

(b) List of the projects under execution or awarded in (Form “D”).

4.2 Particulars of completed works and performance of the bidder duly authenticated/certified by an officer not below the rank of Executive Engineer or equivalent should be furnished separately for each work completed or in progress in (Form “E”).

4.3 Information in (Form “D”) should be complete and no work should be left out.

### **5.0 Organization information**

Bidder is required to submit the information in respect of his organization in Forms “F” & “G”

### **6.0 Construction plant and equipment**

Bidder should furnish the list of construction plant and equipment including steel shuttering, centering and scaffolding to be used in carrying out the work. (in Form “H”). Details of any other plant & equipment required for the work not included in Form “F” and available with the applicant may also be indicated.

### **7.0 Letter of transmittal**

The bidder should submit the letter of transmittal attached with the document.

**8.0 Criteria for evaluation of the performance of contractors for pre-eligibility**

	ATTRIBUTES	EVALUATION
<b>(A)</b>	<b>Financial strength (20)</b> <b>(i) Average annual turnover 16 marks</b> <b>(ii) Solvency Certificate 4 marks</b>	a) 60% marks for minimum eligibility criteria b) 100% marks for twice the minimum eligibility criteria or more <hr/> In between (a) & (b) – on pro-rata basis
<b>(b)</b>	<b>Experience in similar class of works (20 marks)</b>	a) 60% marks for minimum eligibility criteria b) 100% marks for twice the minimum eligibility criteria or more <hr/> In between (a) & (b) – on pro-rata basis
<b>(c)</b>	<b>Performance on works (time over run) (20 marks)</b>	<hr/>

	Parameter Calculation for points	Score	Maximum marks
	If TOR =	1.0 2.00 3.00 >3.50	20
	(i) Without levy of compensation	20 15 10 10	
	(ii) With levy of compensation	20 5 0 -5	
	(iii) Levy of compensation not decided	20 10 0 0	
	<p>TOR = AT/ST, where At = Actual ; ST = Stipulated Time</p> <p>Note: Marks for value in between the stages indicated above is to be determined by straight line variation basis.</p>		
<b>(d)</b>	<b>Performance of works (Quality)</b>	<b>(15 marks)</b>	
	(i) Very Good	15	
	(ii) Good	10	
	(iii) Fair	5	
	(iv) Poor	0	
<b>(e)</b>	<b>Personnel and Establishment</b>	<b>(Mar. 10 marks)</b>	
	(i) Graduate Engineer	3 marks for each man up to 3 no.	
	(ii) Diploma holder Engineer	2 marks for each upto Max. 4 marks	
	(iii) Supervisory / Foreman	1 mark for each upto Max. 3 marks	
<b>(f)</b>	<b>Plant &amp; Equipment</b>	<b>(Max. 15 marks)</b>	
1.	Concrete Transit Mixture / Truck / Tippers	1 mark for each upto Max. 2 mark	
2.	Steel shuttering	2 mark for each 800 sqm upto maximum 4 marks	
3.	Concrete Batching Plant	2 mark for each upto Max. 2 marks	
4.	Excavator	1 mark for each upto Max. 2 mark	
5.	Pump	1/2 mark for each upto Max. 1 mark	
6.	Bar bending and Bar cutting machine	1/2 mark for each upto Max. 1 mark	
7.	CC cube testing machine.	1 mark for each upto Max. 1 marks	
8.	Welding Generator	1 mark for each upto Max. 1 marks	



**9.0 Opening of Price bid**

After evaluation of applications, a list of short listed agencies will be prepared. Thereafter the financial bids of only the qualified and technically acceptable bidders shall be opened at the notified time, date and place in the presence of the qualified bidders or their representatives.

**10.0 Award criteria**

10.1 The employer reserves the right, without being liable for any damages or obligation to inform the bidder, to:

- (a) Amend the scope and value of contract to the bidder.
- (b) Reject any or all the applications without assigning any reason.

10.2 Any effort on the part of the bidder or his agent to exercise influence or to pressurize the employer would result in rejection of his bid. Canvassing of any kind is prohibited.

**SECTION III  
INFORMATION REGARDING ELIGIBILITY  
LETTER OF TRANSMITTAL**

From:

To  
The Executive Engineer  
.....

Subject: Submission of bids for the work of .....  
.....

Sir,

Having examined the details given in press notice and bid document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed forms A to H and accompanying statement are true and correct.
  
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
  
3. I/we submit the requisite certified solvency certificate and authorize the Executive Engineer .....to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/we also authorize Executive Engineer ..... .... to approach individuals, employers, firms and corporation to verify our competence and general reputation.
  
4. I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following works:

Name of work

Certificate from

Enclosures:

Seal of bidder

Date of submission:

Signature(s) of Bidder(s).

**FORM 'A'**

**FINANCIAL INFORMATION**

I. Financial Analysis – Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

**Years**

--	--	--	--	--

(i) Gross Annual turn over on construction works.

(ii) Profit/Loss.

II. Financial arrangements for carrying out the proposed work.

III. Solvency Certificate from Bankers of the bidder in the prescribed Form "B".

Signature of Chartered Accountant with Seal

Signature of Bidder(s).

**FORM "B"**

**FORM OF BANKERS' CERTIFICATE FROM A SCHEDULED BANK**

This is to certify that to the best of our knowledge and information that M/s./ Sh.....  
.....having marginally noted address, a customer of  
our bank are/is respectable and can be treated as good for any engagement upto a limit of  
Rs..... (Rupees.....)

This certificate is issued without any guarantee or responsibility on the bank or any of the  
officers.

(Signature)

For the Bank

NOTE:

(1) Bankers certificates should be on letter head of the Bank, sealed in cover  
addressed to  
tendering authority.

(2) In case of partnership firm, certificate should include names of all partners as  
recorded with the Bank.



1	2	3	4	5	6	7	8	9	10

\*Certified that the above list of works is complete and no work has been left out and the information given is correct to my knowledge and belief.

Signature of Bidder(s)

## FORM 'E'

### PERFORMANCE REPORT OF WORKS REFERRED TO IN FORMS "B" & "C"

1. Name of work/project & location
2. Agreement no.
3. Estimated cost
4. Tendered cost
5. Date of start
  - (i) Stipulated date of Start
  - (ii) Actual date of Start
6. Date of completion
  - (i) Stipulated date of completion
  - (ii) Actual date of completion
7. Amount of compensation levied for delayed completion, if any
8. Amount of reduced rate items, if any
9. Performance Report
  - (1) Quality of work Very Good/Good/Fair/Poor
  - (2) Financial soundness Very Good/Good/Fair/Poor
  - (3) Technical Proficiency Very Good/Good/Fair/Poor
  - (4) Resourcefulness Very Good/Good/Fair/Poor
  - (5) General Behavior Very Good/Good/Fair/Poor
10. Extension of time granted
  - (i) With levy of compensation
  - or
  - (ii) Without levy of compensation
  - or
  - (iii) Levy of compensation not decided.



Dated:  
Equivalent

Executive Engineer or

**FORM "F"**  
**STRUCTURE & ORGANISATION**

1. Name & address of the bidder
2. Telephone no./Telex no./Fax no.
3. Legal status of the bidder (attach copies of original document defining the legal status)
  - (a) An Individual
  - (b) A proprietary firm
  - (c) A firm in partnership
  - (d) A limited company or Corporation
4. Particulars of registration with various Government Bodies (attach attested photocopy)

**Organisation/Place of registration  
Registration No.**

5. Names and titles of Directors & Officers with designation to be concerned with this work.
6. Designation of individuals authorized to act for the organization
7. Was the bidder ever required to suspend construction for a period of more than six months continuously after he commenced the construction? If so, give the name of the project and reasons of suspension of work.
8. Has the bidder, or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
9. Has the bidder, or any constituent partner in case of partnership firm, ever been debarred/black listed for tendering in any organization at any time? If so, give details
10. Has the bidder, or any constituent partner in case of partnership firm, ever been convicted by the court of law? If so, give details.
11. In which field of Civil Engineering construction the bidder has specialization and interest?
12. Any other information considered necessary but not included above.

Signature of Bidder(s)

**FORM 'G'**

**DETAILS OF TECHNICAL & ADMINISTRATIVE PERSONNEL TO BE  
EMPLOYED FOR THE WORK**

S. No.	Designate d	Total Number	Number availabl e for this work	Name	Qualification	Professional experience and details of work carried out	How these would be involved in this work	Remarks
1	2	3	4	5	6	7	8	9

Signature of Bidder(s)

**FORM 'H'**

**DETAILS OF CONSTRUCTION PLANT AND EQUIPMENT LIKELY  
TO BE USED IN CARRYING OUT THE WORK**

S. No.	Name of equipment	Nos.	Capacity or type	Age	Condition	Ownership status			Current Location	Rem
						Presently owned	Leased	To be purchased		
1	2	3	4	5	6	7	8	9	10	1

**Earth moving equipment**

1. Excavators  
(various sizes)

2. Builder's Hoist

**Equipment for concrete work**

1. Concrete batching plant

2. Concrete pump

3. Concrete Transit mixer

4. Concrete mixer  
(diesel)

5. Concrete mixer  
(electrical)

6. Needle vibrator  
(electrical)

7. Needle vibrator  
(petrol)

8. Table vibrator  
(elect./petrol)

**Equipment for building work**

1. Block making machine

2. Bar bending machine

3. Bar cutting machine

4. Wood thickness planer

5. Drilling machine

6. Circular saw machine

Signature of Bidder(s)

FORMAT T-I

## Litigation/Arbitration History

<b>Name of Applicant</b>
--------------------------

Applicants should provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution.

<b>Year</b>	<b>Award FOR or AGAINST Applicant</b>	<b>Name of client, cause of litigation/Arbitration and matter in dispute</b>	<b>Disputed amount (current value)</b>	<b>Actual Awarded Amount</b>


**(Applicant)**

**FORMAT T-II**

Equipment Capabilities

UNDERTAKING

I, the undersigned do hereby undertake that our firm M/s \_\_\_\_\_ shall deploy all plants and machinery/equipment required for implementation of the project as per technical specifications. I also undertake to either own or have assured access through hire or lease all the plant and machinery/equipment.

\_\_\_\_\_  
Signed by an Authorised Officer of the Firm

\_\_\_\_\_  
Title of Officer

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Date





**FORMAT T-III**

**PERSONNEL CAPABILITIES**

**UNDERTAKING**

I, the undersigned do hereby undertake that our firm M/s  
\_\_\_\_\_ shall make provision for suitably qualified  
personnel to carryout the work namely----- as required  
during contract implementation

\_\_\_\_\_  
Signed by an Authorized Officer of the Firm

\_\_\_\_\_  
Title of Officer

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_

Date

**FORMAT T-IV**

**FORM OF HYPOTHECATION DEED**

On Non-Judicial Stamp Paper of Requisite Value.

THIS INDENTURE made this \_\_\_\_\_ day of \_\_\_\_\_ 200 \_\_\_\_\_ between \_\_\_\_\_ of the one part and the East Delhi Municipal Corporation represented by Executive Engineer Project I Shah(N) Zone hereinafter called "The Employer" which expression shall unless the context requires otherwise includes his successors and assigns of the other part.

WHEREAS under Clause \_\_\_\_\_ of the General Conditions of Contract relating to the Contract No. \_\_\_\_\_ dated: \_\_\_\_\_ entered into between the Employer and the Contractor, the Contractor has applied to the Employer for a \_\_\_\_\_ (Rupees \_\_\_\_\_ only) for plant & equipment described in the schedule hereto as specifically acquired by the contractor for the works and brought at site.

AND WHEREAS one of the conditions on which the said \_\_\_\_\_ to be granted by the Employer to the Contractor is that Contractor shall hypothecate the plant and equipment described in the schedule hereto in favour of the Employer as security for the due repayment of the said \_\_\_\_\_ AND WHEREAS the Contractor has represented that he is the owner of the plant and equipment described in the schedule hereto and the same is free from encumbrances.

NOW THIS INDENTURE WITNESSETH THAT in pursuance of the said agreement and in consideration of the promises the contractor do hereby hypothecate, assign and transfer to the Employer the plant and equipment described in the schedule hereto, the intent that the same shall remain as security for repayment to the Employer of the said \_\_\_\_\_.

1. The Contractor hereby agrees, declares, and covenants with the Employer as follows:-
  - (a) The Contractor shall repay to the Employer the said \_\_\_\_\_ (Rupees \_\_\_\_\_ only) as aforesaid and agrees that the said advance be recovered by the Employer by making deductions in the manner provided in clause

\_\_\_\_\_ of the Special Conditions of Contract and other conditions of the Contract from the claims made by the Contractor against the Employer for on account of payment.

(b) The Contractor has paid in full the purchase price of the plant and equipment described in the Schedule hereto and each and every one of them are the absolute property of the Contractor and that same have not been sold, pledged, mortgaged or transferred or in any way dealt with by the Contractor.

(c) So long as any amount remains payable to the employer by the Contractor in respect of the said advance of Rs. \_\_\_\_\_ the Contractor shall not sell, pledge, hypothecate, transfer part with or in any way deal with the plant and equipment described in the schedule hereto.

(d) If the said advance of Rs. \_\_\_\_\_ shall not be repaid by the contractor or recovered in the manner described above by the said \_\_\_\_\_ day of \_\_\_\_\_ due to any reason whatsoever or the said Contract has been determined earlier or cancelled or if the Contractor shall sell, pledge, mortgage, transfer, part with or in any way deal with the said plant and equipment or any part thereof or the contractor or any of the partners is adjudged insolvent or the Contract is to be wound up or makes any composition or agreement with its Creditors or the Contractor shall commit breach of any of the terms and conditions or covenants as herein contained or if any other property whatsoever belonging to the Contractor has been sold or attached for a period of not less than 21 days in execution of the decree of any court for payment for money, whole of the said advance of Rs. \_\_\_\_\_ or such part thereof as may have remained unpaid or unrecovered shall forthwith become due and payable.

(e) The Employer may on the happening of any of the events mentioned in the preceding Clause (d) or in the event of the said loan or and part thereof becoming due and payable and has not been paid or recovered or cannot be recovered as provided in the said conditions, seize and take possession of the said plant and equipment (and either remain in possession thereof without removing the same or else may remove the same) and sell the said plant and equipment or any of them either by public auction or private contract and may out of the sale proceeds retain the balance of the said advance remaining unpaid and unrecovered and all cost, charges and expenses and payments incurred or made in maintaining, defending or protecting the rights of the Employer herein under and shall pay over the surplus, if any, to the contractor.

(f) The Contractor shall at all times during the continuance of the security and at the expense of the Contractor insure and keep insured the plant and equipment described in the Schedule hereto for the full value thereof in the joint names of the Contractor and the Employer with an Insurance Company to be approved by the Engineer-in-Charge against the risk of loss or damage from whatsoever cause. During the continuance of the security the Contractor shall pay all premia and sums of money necessary for keeping such insurance on foot and the Insurance Policy and receipts in original for premia paid shall be deposited with the Engineer-in-charge. The Contractor shall assign all his right, title and interest in the policy to the Employer.

(g) The Contractor shall not permit or suffer the said plant and equipment or any part thereof to be destroyed or damaged or used or to be used or to deteriorate in a greater degree than it would deteriorate by reasonable wear and tear thereof in the performance of the contract.

(h) In the event of any damage or loss happening to the said plant and equipment or any part thereof from whatever cause, the contractor forthwith have the same repaired or replaced as the case may be or arrange for payment of the entire amount recovered or to be recovered from the Insurance Company to the Employer towards the payment of the said advance of Rs.\_\_\_\_\_.

2. Upon repayment of recovery in full of the amount secured on account of this hypothecation deed the said plant and equipment secured herein under shall stand released from hypothecation but this is without prejudiced to the right of the Employer under any other conditions of the contract.

**SCHEDULE ABOVE REFERRED TO**

<b>S.N.</b>	<b>PARTICULARS OF PLANT &amp; EQUIPMENT</b>	<b>NOS</b>	<b>PURCHASE PRICE/ PRICE CONSIDERED REASONABLE BY THE ENGINEER-IN-CHARGE</b>	<b>TOTAL PRICE</b>	<b>ADVANCE (90% FOR NEW MACHINERY AND 50% FOR OLD MACHINERY)</b>
1	2	3	4	5	6

IN WITNESS WHEREOF the parties hereto have executed these present on the day year first above written.

Signed and delivered by the

Within named \_\_\_\_\_

Signed by Shri \_\_\_\_\_

(Name & Designation)

for and on behalf of the Contractor

in the presence of

1. \_\_\_\_\_

for & on behalf of the Employer

(\_\_\_\_\_)

2. \_\_\_\_\_

Name of Project/Unit

in the presence of

(i) \_\_\_\_\_

**(ii)**





## **MODEL FORM EARNEST MONEY (GUARANTEE)**

### **BANK GUARANTEE BOND**

1. In accordance with the Tender document issued by East Delhi Municipal Corporation (hereinafter called “EDMC”) having to \_\_\_\_\_ [hereinafter called “the said Contractor(s)”] for the work \_\_\_\_\_ having agreed to production of a irrevocable Bank Guarantee for Rs. \_\_\_\_ (Rs. \_\_\_\_\_ only) as Earnest Money from the contractor(s) for compliance of his obligations in accordance with the terms & conditions as stated in the said tender document. We, \_\_\_\_\_ (indicate the name of the Bank) (hereinafter referred to as ‘The Bank’) hereby undertake to the pay to the EDMC an amount not exceeding Rs. \_\_\_\_\_ (Rs \_\_\_\_\_ only) on demand by the EDMC.

2. We \_\_\_\_\_ (indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the EDMC stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor(s). 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 liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_ (Rs \_\_\_\_\_ only).

3. We, the said bank further undertake to pay to the EDMC any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We \_\_\_\_\_ (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period in which the bids submitted by the contractor(s) shall be valid and that it shall continue to be enforceable till all the dues of the EDMC under or by virtue of the subject bids have been fully paid and its claims satisfied or discharged or till Engineer-in-charge on behalf of the EDMC certifies that the terms and conditions of the said RFP have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

6. We, \_\_\_\_\_ (indicate the name of Bank) lastly

undertake not to revoke this guarantee except with the previous consent of the EDMC in writing.

7. This guarantee shall be valid up to \_\_\_\_\_ unless extended on demand by EDMC. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ for \_\_\_\_\_ (indicate the name of Bank).

# (NOT APPLICABLE)

## MODEL FORM PERFORMANCE SECURITY (GUARANTEE)

### BANK GUARANTEE BOND

1. \_\_\_\_\_ In consideration of the East Delhi Municipal Corporation (hereinafter called "EDMC") having offered to accept the terms & condition of the proposed agreement between \_\_\_\_\_ [hereinafter called "the said Contractor(s)"] for the work \_\_\_\_\_ (hereinafter called "the said Agreement") having agreed to production of a irrevocable Bank Guarantee for Rs. \_\_\_\_\_ (Rs. \_\_\_\_\_ only) as security /guarantee from the contractor(s) for compliance of his obligations in accordance with the terms & conditions in the said agreement. We, \_\_\_\_\_ (indicate the name of the Bank) (hereinafter referred to as 'The Bank') hereby undertake to the pay to the EDMC an amount not exceeding Rs. \_\_\_\_\_ (Rs. \_\_\_\_\_ only) on demand by the EDMC.

2. \_\_\_\_\_ We \_\_\_\_\_ (indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the EDMC stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor(s). 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 liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_ (Rs. \_\_\_\_\_ only).

3. \_\_\_\_\_ We, the said bank further undertake to pay to the EDMC any money so demanded not withstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

a. \_\_\_\_\_ The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the contractor(s) shall have no claim against us for making such payment.

4. \_\_\_\_\_ We \_\_\_\_\_ (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect 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 EDMC under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-charge on behalf of the EDMC certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this

guarantee.

5. \_\_\_\_\_ We \_\_\_\_\_ (indicate the name of Bank) further agree with the EDMC that the EDMC shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the EDMC against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance act or omission on the part of the EDMC or any indulgence by the EDMC to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

6. \_\_\_\_\_ This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. \_\_\_\_\_ We, \_\_\_\_\_ (indicate the name of Bank) lastly undertake not to revoke this guarantee except with the previous consent of the EDMC in writing.

8. \_\_\_\_\_ This guarantee shall be valid up to \_\_\_\_\_ unless extended on demand by EDMC. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ for \_\_\_\_\_ (indicate the name of Bank).

# (NOT APPLICABLE)

## MODEL FORM OF BANK GUARANTEE BOND

### ~~(For exemption from security deposit)~~

1. — In consideration of the East Delhi Municipal Corporation (hereinafter called “EDMC”) having agreed to exempt \_\_\_\_\_ [hereinafter called “the said Contractor(s)”] from the demand, under the terms and conditions of an Agreement No. \_\_\_\_\_ dated \_\_\_\_\_ made between \_\_\_\_\_ and \_\_\_\_\_ for \_\_\_\_\_ the work \_\_\_\_\_ (hereinafter called “the said Agreement”) of security deposit for the due fulfilment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of a bank Guarantee for Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only), we \_\_\_\_\_ (indicate the name of the Bank). (hereinafter referred to as “the Bank”) at the request of \_\_\_\_\_ Contractor(s) do hereby undertake to pay to the EDMC an amount not exceeding Rs \_\_\_\_\_ on demand.

2) — We \_\_\_\_\_ do hereby undertake to pay \_\_\_\_\_ (indicate the name of the Bank) the amounts due and payable under this guarantee without any demur, merely on a demand from the EDMC stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor(s). 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 liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_.

3) — We undertake to pay to the EDMC any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the contractor(s) shall have no claim against us for making such payment.

4) We \_\_\_\_\_ (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect 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 EDMC under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-charge on behalf of the EDMC certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5) We \_\_\_\_\_ (indicate the name of Bank) further agree with the EDMC that the EDMC shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the EDMC against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance act or omission on the part of the EDMC or any indulgence by the EDMC to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

6) This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7) We, \_\_\_\_\_ lastly undertake not to revoke this guarantee except with the previous consent of the EDMC in writing.

8) This guarantee shall be valid up to \_\_\_\_\_ unless extended on demand by EDMC. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ for \_\_\_\_\_  
(indicate the name of Bank).

## FORM OF BANK GUARANTEE TO SECURE A LUMP SUM ADVANCE

To

The East Delhi Municipal Corporation

1. In consideration of the East Delhi Municipal Corporation (hereinafter called "the EDMC" which expression shall unless repugnant to the subject or context include his successors and assigns) having agreed under the terms and conditions of Contract No.,-----dated ----- made between \*----- and the EDMC in connection with ----- (hereinafter called "the said Contract") to make at the request of the Contractor a lumpsum advance of Rs ----- (Rupees \_\_\_\_\_) for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable to the EDMC, we the \*\*----- Bank Ltd. (hereinafter referred to as "the said Bank") a company under the Companies Act, 1956 and having our registered office at ----- do hereby guarantee the due recovery by the EDMC of the said advance with interest thereon as provided according to the terms and conditions of the Contract. We\*\* ----- do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from the EDMC stating that the amount claimed is due to the EDMC under the said Agreement. Any such demand made on the ----- shall be conclusive as regards the amount due and payable by the ----- under this guarantee and the ----- agree that the liability of the ----- to pay the EDMC the amount so demanded shall be absolute and unconditional notwithstanding any dispute or disputes raised by the Contractor and notwithstanding any legal proceeding pending in any Court or Tribunal relating thereto. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs----- (Rupees \_\_\_\_\_).

2. We\*\* ----- Bank Ltd. Further agree that the EDMC shall be the sole judge of and as to whether the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by the EDMC on account of the said advance together with interest now being recovered in full and the decision of the EDMC that the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and as to the amount



or amounts of loss or damages caused to or suffered by the EDMC shall be final and binding on us.

3. We, the said Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and till the said advance with interest has been fully recovered and its claims satisfied or discharged and till \_\_\_\_\_ certify that the said advance with interest has been fully recovered from the said Contractor, and accordingly discharges this Guarantee subject, however, that the EDMC shall have no claims under this Guarantee after ----- years from the date of completion of the said Contract, as the case may be, unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the said period of ----- years in which case the same shall be enforceable against the Bank notwithstanding the fact that the same is enforced after the expiry of the said period of ..... years.

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

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

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

Dated this ..... day of .....2010

For and on behalf of the Bank

\_\_\_\_\_  
(Name and Designation).

The above Guarantee is accepted by the Municipal Corporation of Delhi.

For and on behalf of the Municipal Corporation of Delhi

Dated \_\_\_\_\_

(Name and Designation).

Note :

\*For Proprietary Concerns

Shri ----- son of -----  
resident of ----- carrying on business under  
the name and style of ----- at -----  
(hereinafter called the said Contractor which expression shall, unless the context requires  
or otherwise include his heirs, executors, administrators and legal representatives).

\*For partnership Concerns

1) Shri ----- son  
of----- resident  
of-----

2) Shri -----son of -----  
resident of----- and  
carrying on business in co-partnership under the name and style of ----- at  
----- (hereinafter collectively called “the said Contractors”  
which expression shall unless the context requires otherwise include each of them and  
their respective heirs, executors, administrators, and legal representatives).

\*For Companies

S/Shri----- a Company under the  
Companies Act, 1956 and having its registered office at ----- in  
the State of ----- (hereinafter called” the said Contractor” which  
expression shall unless the context requires otherwise include its successors and assigns).

\*\* Fill in name of the Bank

**GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF  
DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS**

The Agreement made this..... day of ..... Two thousand .....  
..... between..... Son of..... of.....  
(Hereinafter called the Guarantor of the one part ) and the East Delhi Municipal Corporation (hereinafter called the EDMC of the other part).

WHEREAS THIS agreement is supplementary to a contract (hereinafter called the Contract) dated..... and made between the GUARANTOR OF THE ONE part and the EDMC of the other part, whereby the Contractor interalia, undertook to render the buildings and structures in the said contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for ten years from the date of giving of water proofing treatment.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak-proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the Guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

- a) misuse of roof shall mean any operation which will damage proofing treatment, like chopping of fire wood and things of the same nature which might cause damage to the roof;
- b) alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts;
- c) The decision of the Engineer-in-Charge with regard to cause of leakage shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of

any defect being found render the structure water proof to the satisfaction of the Engineer-in-Charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-Charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the GUARANTOR'S cost and risk. The decision of the Engineer-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if Guarantor fails to execute the water proofing or commits breach thereunder then the Guarantor will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the EDMC the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligor ..... and by ..... and for and on behalf of the on the day, month and year first above written.

SIGNED, Sealed and Delivered by OBLIGOR in the presence of

1. -----

2. -----

SIGNED FOR AND ON BEHALF OF THE  
Municipal Corporation of Delhi, BY.....

in the presence of:-

1. -----

2. -----

INSERT ONE OF THE FOLLOWING SENTENCES WHICHEVER IS APPROPRIATE FOR PROPRIETARY CONCERNS

Shri

OR

FOR PARTNERSHIP CONCERNS

M/s \_\_\_\_\_ a partnership firm with its office at \_\_\_\_\_ (hereinafter called "The said Contractor" which expression shall unless the context requires otherwise include their respective heirs, executors, administrators and legal representatives), the name of partner being

i. Shri \_\_\_\_\_

S/O \_\_\_\_\_

ii. Shri \_\_\_\_\_

S/O \_\_\_\_\_

FOR COMPANIES

M/s \_\_\_\_\_ a company registered under the Companies Act, 1956, and having its registered office at \_\_\_\_\_ in the state of \_\_\_\_\_ (hereinafter called "The said Contractor" which expression shall unless the context requires otherwise include its administrators, successors, and assigns).

## **INDEMNITY BOND**

**(TO BE TYPED ON A RS. 100 STAMP PAPER)**

We, M/s. \_\_\_\_\_ (the  
concessionaire/ contractor) shall indemnify the East Delhi Municipal Corporation against  
all loss and claims in respect of:

1. Death or Injury to any person
2. Loss or Damage to any property including works

These may arise out of any consequences of the execution and completion of the works  
and remedying of all defects therein and against all claims, proceedings, damages, costs,  
charges or expenses in respect or in relation thereof.

We shall also indemnify the Employer from all risks arising out of natural calamities, etc.

(Signature by the Authorized Signatory of the Firm)

Title of Office

Name of Firm

Date:

**Name of work: - Construction of Maternity Home Chandiwala after dismantling of old building in Ward No. 247 Shahdara (North).**

**CHAPTER –**

**FINANCIAL BID**



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**PART-A- CIVIL COMPONENT**

**TENDER SCHEDULE**

DSR - 2012	SI.No.	Description of item	Unit	QTY	Rate	Amount
<b>CHAPTER - 1 : EARTH WORK</b>						
1	1.1	Carriage of Materials				
1.1	1.1	Carriage of materials by mechanical transport including loading, unloading and stacking. (Lead upto 12 km)				
1.1.1	1.1.1	Lime, moorum, building rubbish	cum	131.00		
1.1.2	1.1.2	Earth	cum	578.84		
2.1	1.2	Earth work in surface excavation not exceeding 30cm in depth but exceeding 1.5m in width as well as 10sqm on plan including disposal of excavated earth up to 50m and lift up to 1.5m, disposed soil to be levelled and neatly dressed : All kinds of soil.	100 sqm	6.55		
2.6	1.3	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
2.6.1	1.3.1	All kinds of soil	cum	1,837.44		
2.26	1.4	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.				
2.26.1	1.4.1	All Kinds of soil	Cum	758.49		

2.10.1	1.5	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : All kinds of soil				
2.10.1.2	1.5.1	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	Metre	450.00		
2.25	1.6	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m	cum	752.69		
2.27	1.7	Supplying and filling, in plinth with jamuna sand under floors including, watering, ramming consolidating and dressing complete.	cum	33.70		
2.22	1.8	Open timbering in trenches including strutting and shoring complete. (Measurements to be taken of the face area to be timbered) :				
2.22.1	1.8.1	Depth not exceeding 1.5m.	sqm	126.39		
2.22.2	1.8.2	Depth exceeding 1.5 m but not exceeding 3 m.	sqm	126.39		

## CHAPTER - 2 : CONCRETE WORK

4.1	2.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
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4.1.3	2.1.1	1:2:4 ( 1Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)				
			cum	13.45		
4.1.8	2.1.3	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)				
			cum	93.87		
4.1.10	2.1.4	1:5:10 (1 cement : 5 Coarse Sand : 10 Graded stone Ballast 40mm nominal size)				
			cum	10.08		
4.10	2.2	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5mm nominal size).				
			sqm	75.30		
4.12	2.3	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.				
		Unit read as per 50 Kg cement	Kg	153.32		
4.13	2.4	Applying a coat of residual petroleum bitumen of penetration 80/100 of approved quality using 1.7kg per square meter on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.				
			sqm	50.00		
4.17	2.5	Making plinth protection 50mm thick of cement concrete sqm 1:3:6 (1 cement :3 coarse sand : 6graded stone aggregate 20mm nominal size) over 75mm bed by dry brick ballast 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth				
			sqm	75.47		

### CHAPTER - 3 : R.C.C WORKS

5.1	3.1	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				
5.1.3	3.1.1	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size)	cum	37.74		
5.2	3.2	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level excluding cost of centering, shuttering, finishing and reinforcement :				
5.2.1	3.2.1	1:1:2 (1Cement :1 coarse sand : 2 graded stone agg. 20 mm nominal size .	cum	3.19		
5.9	3.2	Centring and shuttering including strutting, propping etc. and removal of form for:				
5.9.1	3.2.1	Foundations, footings, bases of columns etc. for mass concrete.	sqm	99.05		
5.9.2	3.2.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	sqm	566.48		
5.9.3	3.2.3	Suspended floors, roofs, landings, balconies and access platform.	sqm	1,365.24		
5.9.4	3.2.4	Shelves (Cast in situ)	sqm	150.00		
5.9.5	3.2.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	sqm	1,491.20		
5.9.6	3.2.6	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	655.90		
5.9.7	3.2.7	Stairs, (excluding landings) except spiral-staircases.	sqm	268.27		
5.9.15	3.2.8	Small lintels not exceeding 1.5m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	sqm	42.86		

5.9.16	3.2.9	Edges of slabs and breaks in floors and walls.				
5.9.16.1	3.2.10	Under 20 cm wide	Metre	359.60		
5.12	3.3	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills and the like, including the cost of required centering, shuttering but excluding cost of reinforcement, with 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size).	cum	12.60		
5.33	3.3	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
5.33.1	3.3.1	All works above plinth level	cum	255.52		
5.33.2	3.3.2	All works above plinth level upto floor V level	cum	389.38		
5.34	3.4	Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable /recoverable separately.				

5.34.1	3.4	Providing M-30 grade concrete instead of M-25 grade BMC/ RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum)	cum	374.00		
5.35	3.5	Add for using extra cement in the items of design mix over and above the specified cement content therein.	Metric tone	10.00		
5.22	3.5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
5.22.6	3.5.1	Thermo-Mechanically Treated bars	kilogram	28,715.6 4		



5.22A	3.5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
5.22A.6	3.5.1	Thermo-Mechanically Treated bars	kilogram	53,147.68		
5.28	3.6	Providing and fixing in position 12mm thick bitumen impregnated fiber board including cost of primer, sealing compound in joints.	per cm depth per 100 m	17.74		
5.30	3.7	Add for plaster drip course/ groove in plastered surface or Moulding to R.C.C. projections.	Metre	143.84		

#### CHAPTER - 4 : BRICK WORK

6.1	4.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
6.1.2	4.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	100.19		
6.4	4.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
6.4.2	4.2.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	295.18		
6.13	4.3	Half brick masonry with common burnt clay F.P.S. (iron modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level				
6.13.2	4.3.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	sqm	997.06		
6.15	4.4	Extra for providing and placing in position 2 Nos. 6mm dia M.S. bars at every third course of half brick masonry .	sqm	997.06		

		<b>TOTAL OF BRICK WORK CARRIED OVER TO SUMMARY OF CIVIL WORKS</b>				
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**CHAPTER - 5 : STONE WORK**

7.40	5.1	Providing and fixing dry cladding upto 10 metre heights with 30 mm thick gang saw cut stone with (machine cut edges) of uniform colour and size upto 1mx1m, fixed to structural steel frame work and/ or with the help of cramps, pins etc. and sealing the joints with approved weather sealant as per Architectural drawing and direction of Engineer-in-charge. (The steel frame work, stainless steel cramps and pins etc. shall be paid for separately).				
7.40.1	5.1.1	Red sand stone	sqm	878.62		
7.40.2	5.1.2	White sand stone	sqm	219.66		

7.41	5.2	<p>Providing and fixing structural steel frame (for dry cladding with 30 mm thick gang saw cut with machine cut edges sand stone) on walls at all heights using M.S. square/rectangular tube in the required pattern as per architectural drawing, including cost of cutting, bending, welding etc. The frame work shall be fixed to the wall with the help of M.S. brackets/ lugs of angle iron/flats etc. which shall be welded to the frame and embedded in brick wall with cement concrete block 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm nominal size) of size 300x230x300 mm, including cost of necessary centring and shuttering and with approved expansion hold fasteners on CC/RCC surface, including drilling necessary holes. Approved cramps/ pins etc. shall be welded to the frame work to support stone cladding, the steel work will be given a priming coat of Zinc primer as approved by Engineer- in-charge and painted with two or more coats of epoxy paint (Shop drawings shall be submitted by the contractor to the Engineer-in-charge for approval before execution).....</p>			
		<p>..... The frame work shall be fixed in true horizontal &amp; vertical lines/planes. (Only structural steel frame work shall be measured for the purpose of payment, stainless steel cramps shall be paid for separately and nothing extra shall be paid).</p>	kg	475.00	

7.42	5.3	Providing and fixing adjustable stainless steel cramps of approved quality and of required shape and size adjustable with stainless steel nuts bolts and washer (total weight not less than 260 gms) for dry stone cladding fixed on frame work at suitable location including making necessary recesses in stone slab, drilling required holes etc complete as per direction of the Engineer-in-charge.	each	2,306.00		
7.39	5.4	Extra for stone work for wall lining on exterior walls of height more than 10 m from ground level for every additional height of 3 m or part there of.	Sqm	617.79		
<b>CHAPTER - 5 : MARBLE WORK</b>						
8.2	5.1	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished machine cut for kitchen platforms, vanity counters window sills, facias and similar locations of required size approved shade,colour and texture laid over 20mm thick base cement mortar 1:4 ( 1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing moulding and polishing to the edge to give high gloss finish etc. complete at all levels.				
8.2.1	5.1.1	Raj Nagar Plain white marble/ Udaipur green marble/ Zebra black marble.				
8.2.1.1	5.1.1.1	Area of slab upto 0.50 sqm.	sqm	5.00		
8.2.1.2	5.1.1.2	Area of slab over 0.50 sqm.	sqm	150.00		
8.2.2	5.1.2	Granite of any colour and shade				
8.2.2.1	5.1.2.1	Area of slab upto 0.50 sqm.	sqm	2.00		
8.2.2.2	5.1.2.2	Area of slab over 0.50 sqm.	sqm	72.35		

8.4	5.2	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	Metre	50.00		
8.5	5.3	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counters and similar location in marble/granite/stone work including necessary holes for pillar taps etc. including moduling, rubbing and polishing of cut edges etc. complete.	each	5.00		

### CHAPTER - 6 : WOOD WORK

9.1	6.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length ( hold fast lugs or dash fastener shall be paid for separately). Kiln seasoned and chemically treated hollock wood.				
9.1.3	6.1.1	Kiln seasoned and chemically treated hollock wood.	cum	0.36		
9.21	6.4	Providing and fixing ISI marked flush door shutters conforming to IS:2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters :				
9.21.1	6.4.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	18.90		

9.21.3	6.4.2	25mm thick (for cupboard) including ISI marked nickel plated bright finished M.S.piano hinges with necessary screws.	sqm	35.24		
9.134	6.5	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws :				
9.134.1.1	6.5.1	35mm thick shutters. : with ISI marked M.S. pressed butt hinges bright finished of required size :				
9.134.1.1.2	6.5.1.1	Kiln seasoned and chemically treated hollock wood.	Sqm	45.80		
9.117	6.5	Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance $\pm 1$ mm), with wall thickness 2.0 mm ( $\pm 0.2$ mm), corners of the door frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19 mm and 1mm ( $\pm 0.1$ mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineer- in-charge				
9.117.1	6.5.1	Extruded section profile size 48x40 mm	Metre	88.35		
9.118	6.6	Providing and fixing to existing door frames.				

9.118.2	6.6.1	30 mm thick factory made Polyvinyl Chloride (PVC) door shutter made of styles and rails of a uPVC hollow section of size 60x30 mm and wall thickness 2 mm ( $\pm 0.2$ mm), with inbuilt decorative moulding edging on one side. The styles and rails mitred and joint at the corners by means of M.S. galvanised/ plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 25x20 mm and 1 mm ( $\pm 0.1$ mm) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x30 mm and 2 mm ( $\pm 0.2$ mm) wall thickness fixed to the shutter styles by means of plastic/ galvanised M.S. 'U' cleats. The shutter frame filled with a uPVC multi-chambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm ( $\pm 0.1$ mm) wall thickness . The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer-in-charge.			
			Sqm	48.83	
9.40	6.9	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete : 2nd Class Teak Wood			
9.40.1.1	6.9.1	50 x 12 mm	metre	50.00	
9.46	6.10	Providing and fixing curtain rods of 1.25 mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete :			

9.46.3	6.10.1	25 mm dia (for all doors & windows)	metre	94.50		
9.47.1	6.11	Providing and fixing nickel plated M.S. pipe curtain rods with nickel plated brackets : 20 mm dia (heavy type) (for cupboards)	metre	12.00		
9.79	6.12	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete.				
9.79.2	6.12.1	50 mm	each	10.00		
9.87	6.13	Providing and fixing bright finished brass hasp and staple (safety type) with necessary screws etc. complete :				
9.87.2	6.13.1	115 mm	each	10.00		
9.114	6.15	Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete.				
9.114.1	6.15.1	Triple strip vertical type	each	10.00		
9.96	6.16	Providing and fixing aluminum sliding door bolts, ISI marked anodized (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :				
9.96.1	6.16.1	300 x 16 mm	each	92.00		
9.96.2	6.16.2	250 x 16 mm	each	86.00		
9.97	6.17	Providing and fixing aluminum tower bolts, ISI marked, anodized (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
9.97.1	6.17.1	300 x 10 mm	each	142.00		
9.97.3	6.17.2	200 x 10 mm	each	142.00		



9.66	6.18	Providing and fixing aluminum handles, ISI marked, anodized (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
9.66.1	6.18.1	125 mm	each	142.00		
9.84	6.19	Providing and fixing aluminum extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	each	45.00		
9.101	6.20	Providing and fixing aluminum hanging floor door stopper, ISI marked, anodized (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.				
9.101.1	6.20.1	Single rubber stopper	each	45.00		
9.48	6.21	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.				
9.48.1	6.21.1	Fixed to steel windows by welding.	kg	3,176.52		

## CHAPTER - 7 : STEEL WORK

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10.3	7.1	Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2mm and braced with flat iron diagonals 20x5mm size, with top and bottom rail of T-iron 40x40x6mm, with 40mm dia steel pulleys, complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer.	sqm	23.45		
10.5	7.2	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6mm angle iron and 3mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
10.5.1	7.2.1	Using M.S. angles 40x40x6 mm for diagonal braces.	sqm	4.20		
10.14.1.1	7.3	Providing and fixing pressed steel door frames conforming to IS: 4351 manufactured from commercial mild steel sheet of 1.6 mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm, or base ties of 1.60 mm pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges, 2.5mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge : Profile B : Fixing with adjustable lugs with split end tail to each jamb.	metre	163.20		

10.18	7.4	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	each	55.00		
10.25	7.5	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
10.25.2	7.5.1	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg	3,078.45		
10.26	7.6	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.				
10.26.1	7.6.1	M.S. tube	Kg	129.59		

10.28	7.7	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, ( for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	Kg	750.00	
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## CHAPTER - 8 : FLOORING

11.26	8.1	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1:4 (1 cement : 4 coarse sand):				
11.26.1	8.1.1	25 mm thick	sqm	676.57		
11.27	8.2	Kota stone slabs 25 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	sqm	101.49		
11.36	8.7	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacture ) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	sqm	1,112.76		

11.37	8.9	Providing and laying Ceramic glazed floor tiles 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigment etc., complete.	sqm	440.63		
	8.1	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete				
11.41.2	8.10.1	Size of Tile 600x600 mm	sqm	258.17		
11.41.3	8.10.2	Size of Tile 800x800 mm	sqm	93.24		

## CHAPTER - 9 : ROOFING

8

12.21	9.1	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement: 2 course sand : 4 stone aggregate 10mm & down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design.				
12.21.1	9.1.1	In 75 x 75 mm deep chase	metre	101.25		

12.22	9.2	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1mx1mx400 micron, finished with 12mm cement plaster 1:3 (1 cement :3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete	each	6.00		
12.41	9.3	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.(i) Single socketed pipes.				
12.41.2	9.3.1	110 mm diameter	meter	103.20		
12.42.1	9.4.	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.				
12.42.1.2	9.4.1	Coupler : 110 mm	each	35.00		
12.42.4.2	9.4.2	Single tee without door : 110x110x110 mm	each	6.00		
12.42.5.2	9.4.2	Bend 110 mm	each	25.00		
12.43	9.5	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
12.43.2	9.5.1	110 mm diameter	each	25.00		



12.44	9.6	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	each	6.00		
12.45	9.7	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at ....				

		...450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :			
12.45.3		12.5 mm thick tapered edge gypsum moisture resistant board	Sqm	860.00	

## CHAPTER - 10 : FINISHING

13.4	10.1	12 mm cement plaster of mix:			
13.4.1	10.1.1	1:4 (1 cement : 4 coarse sand)	sqm	126.72	
13.4.2	10.1.2	1:6 (1 cement : 6 coarse sand)	sqm	3,114.62	
13.5	10.2	15 mm cement plaster of mix:			
13.5.2	10.2.1	1:6 (1 cement : 6 coarse sand)	sqm	100.00	
13.6	10.3	20 mm cement plaster of mix :			
13.6.1	10.3.1	1:4 (1 cement : 4 coarse sand)	sqm	588.24	
13.7.2	10.4	12 mm cement plaster finished with a floating coat of neat cement of mix: 1:4 (1 cement : 4 coarse sand)	sqm	174.30	

13.16	10.5	6 mm cement plaster of mix				
13.16.1	10.5.1	1:3 (1 cement : 3 fine sand)	sqm	1,286.35		
13.18	10.6	Neat Cement Punning	sqm	59.04		
13.11	10.7.1	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement : 6 fine sand).	sqm	168.05		
13.26	10.8	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete .	sqm	4,400.98		
13.44	10.9	Finishing wall with waterproofing cement paint of required shade.				
13.44.1	10.9.1	New Work ( Two or more coats applied @ 3.84 Kg/10 Sqm.	sqm	529.20		
13.81	10.10	Distempering with 1st quality acrylic distemper, having VOC(Volatile Organic Compound) content less than 50 grams/litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.				
13.81.2	10.10.1	Two coats	sqm	1,320.29		
13.60	10.11	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade :				
13.60.1	10.11.1	Two or more coats on new work	sqm	3,080.68		
13.67.1	10.12	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade Old work (Two or more coats applied @ 1.43 ltr/ 10 sqm) over existing cement paint surface.	sqm	168.05		

13.23.1	10.13	Extra for plastering on circular work not exceeding 6 m in radius : In one coat.	sqm	150.00		
13.50	10.14	Applying priming coat :				
13.50.1	10.14.1	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	sqm	50.00		
13.50.3	10.14.2	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanized iron/ steel works	sqm	25.00		
13.61	10.15	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade.				
13.61.1	10.15.1	Two or more coats on new work.	sqm	694.18		
13.52.2	10.16	Finishing with Epoxy paint (Two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface etc. complete: On concrete work.	sqm	275.29		

#### CHAPTER - 11 : ROAD WORK

15.2.1	11.1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge : 1:3:6 or richer mix.	cum	131.00		
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16.1	11.2	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead upto 50 metres.	sqm	476.55		
16.75	11.3	Providing and laying C.C. pavement of mix M25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).	cum	71.48		

**CHAPTER - 12 : ALUMINIUM WORK**

21.1	12.1	Providing and fixing aluminum work for doors, windows, ventilators, and partitions with extruded built up standard tubular sections / appropriate Z sections and other sections of approved make conforming to IS:733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions i.e. at top, bottom and sides with required EPDM rubber / neoprene gasket etc. Aluminum sections shall be smooth, rust free, straight, mitered and jointed mechanically wherever required including cleat angle, Aluminum snap beading for glazing/paneling, C.P brass/stainless steel screws all complete as per architectural drawings and the direction of Engineer in charge (Glazing and Paneling and dash fasteners to be paid for separately).				
21.1.1	12.1.1	For fixed Portion				
21.1.1.1	12.1.1.1	Anodized aluminum (anodized transparent or dyed to required shade according to IS: 1868 , minimum anodic coating of grade AC 15)	kg	1,636.39		
21.1.2	12.2	For shutters of doors, windows & ventilators including providing and fixing hinges / pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / Neoprene gasket required (Fittings shall be paid for separately.)				
21.1.2.1	12.2.1	Anodized aluminum (anodized transparent or dyed to required shade according to is 1868 , minimum anodic coating of grade AC 15)	kg	1,090.93		

21.2	12.3	Providing and fixing 12 mm thick pre-laminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in paneling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.				
21.2.1		Pre-laminated particle board with decorative lamination on both sides	sqm	112.05		
21.3	12.4	Providing and fixing glazing in aluminum door, window, ventilator shutters and partition etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the direction of engineer in charge (cost of aluminum snap beading shall be paid in basic item).				
21.3.2	12.4.1	With float glass panes of 5.50 mm thickness	sqm	203.25		
21.11	12.5	Providing and fixing Stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete				
21.11.1	12.5.1	205 x 19 mm.	each	55.00		
21.16	12.8	Providing and fixing aluminum round shape handle of outer dia 100 mm with SS screws etc . complete as per direction of Engineer-in-Charge.				
21.16.1	12.8.1	Anodized (AC 15 ) aluminum	each	20.00		
21.13	12.9	Providing and fixing 100 mm brass locks (best make of approved quality) for aluminum doors including necessary cutting and making good etc. complete.	each	20.00		

21.17	12.10	Providing and fixing anodized aluminum grill (anodized transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodized aluminum standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	kg	123.75		
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**CHAPTER - 13 : WATER PROOFING**

22.2	13.1	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :				
22.2.1	13.1.1	Using rough kota stone.	sqm	252.00		



22.4	13.1	Providing and Placing in position suitable PVC water stops conforming to IS: 12200 for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete :				
22.4.1		Serrated with central bulb (225mm wide, 8-11mm thick).	Metre	60.20		
22.5	13.2	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound at 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	sqm	68.49		
22.7	13.3	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc. consisting of following operations.				
		a) Applying a slurry coat of neat cement using 2.75 Kg/sqm of cement admixed with water proofing compound conforming to IS:2645 and approved by Engineer-in-charge over the R.C.C. slab including adjoining walls upto 300mm height including cleaning the surface before treatment.				

		b) Laying brick bats with mortar using broken bricks/brick bats 25mm to 115mm size with 50% of cement mortar 1:5 (1 cement:5 Coarse sand ) admixed with water proofing compound conforming to IS:2645 and approved by Engineer - in -charge over 20mm thick layer of cement mortar of mix 1:5 ( 1 cement:5 Coarse sand ) admixed with water proofing compound conforming to IS:2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300mm height including rounding of junctions of walls and slabs.			
		c) After two days of proper curing applying a second coat of cement slurry using 2.75 km/ sqm of cement admixed with water proofing compound conforming to IS:2645 and approved by Engineer-in-charge			
		d) Finishing the surface with 20mm thick joint less cement mortar of mix 1:4 (1 cement: 4 coarse sand) admixed with water proofing compound conforming to IS: 2645 and approved by Engineer-in-charge including laying glass fiber cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300mm square 3mm deep.			
		e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer -in-charge.			
22.7.1	13.3.1	With average thickness of 120mm and minimum thickness at khurra as 65 mm.	sqm	788.48	

## CHAPTER - 14 : HORTICULTURE

23.1	14.1	Trenching in ordinary soil up to a depth of 60cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly leveling within a lead of 50m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	cum	125.40		
				-		
23.3	14.2	Supplying and stacking sludge at site including royalty and carriage complete (sludge measured in stacks will be reduced by 8% for payment).	cum	10.45		
23.4.1	14.3	Supplying and stacking at site dump manure from approved source, including carriage complete (manure measured in stacks will be reduced by 8% for payment) : Screened through sieve of I.S. designation 20mm.	cum	10.45		
23.5	14.4	Rough dressing the trenched ground including breaking clods.	100 sqm	2.09		
23.7	14.5	Fine Dressing The Ground	100 sqm	2.09		
23.8	14.6	Spreading of sludge, dump manure and / or good earth in required thickness as per direction of Officer-in-charge (Cost of sludge, dump manure and / or good earth to be paid separately).	cum	20.90		
23.9	14.7	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge..	cum	20.90		

23.10.1	14.8	Grassing with selection No.1 grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately) : In rows 5 cm apart in both directions.	100sqm	2.09	
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Code.No	Description	Unit	Qty	Rate	Amount
	<b>I - SANITARY INSTALLATIONS</b>				
17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 liter low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :				
	17.1.1 White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	each	1		
17.2	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :				
	17.2.1 W.C. pan with ISI marked white solid plastic seat and lid	each	1		
17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P . flush bend with fittings & C.I.brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.3.1 W.C. pan with ISI marked white solid plastic seat and lid	each	21		

17.4		Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350mm and 340x410x265mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.4.1	One urinal basin with 5 liter white P.V.C. automatic flushing cistern.	each	4		
17.7		Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require :				
	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	each	1		
	17.7.4	White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	each	21		
17.8		Providing and fixing white vitreous china pedestal for wash basin completely recessed at the back for the reception of pipes and fittings.	each	1		
17.10.		Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.2	Kitchen sink without drain board				
	17.10.2.1	610x510 mm bowl depth 200 mm	each	5		

17.11		Providing and fixing white vitreous china laboratory / Janitor sink with C.I. brackets, C.P . brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :			
	17.11.2	Size 600x450x200 mm	each	4	
17.28		Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.			
	17.28.1	Semi rigid pipe			
	17.28.1.2	40 mm dia	each	20	
	17.28.2	Flexible pipe			
	17.28.2.2	40 mm dia	each	25	
17.30		Providing and fixing in position 25 mm diameter mosquito proof coupling of approved municipal design.	each	27	
17.31		Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	each	23	
17.32		Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :			
	17.32.2	Rectangular shape 453x357 mm	each	10	
17.33		Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	each	7	
17.34	17.34.1	Providing and fixing toilet paper holder : C.P . Brass	each	21	

18.21		Providing and fixing uplasticised PVC connection pipe with brass unions :			
	18.21.1	30 cm length			
	18.21.1.1	15 mm nominal bore	each	49	
	18.21.1.2	20 mm nominal bore	each	49	
18.22		Providing and fixing C.P . brass shower rose with 15 or 20 mm inlet :			
		100 mm diameter			
	18.22.2	150 mm diameter	each	12	
18.49		Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 :			
	18.49.1	15 mm nominal bore	each	42	
18.5		Providing and fixing C.P . brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.			
	18.50.1	15 mm nominal bore	each	6	
18.51		Providing and fixing C.P . brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.			
	18.51.1	15 mm nominal bore	each	6	
18.52		Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.			
	18.52.1	15 mm nominal bore	each	5	
18.58		Providing and fixing C.P. brass angle valve for basin mixer and geyser			
		points of approved quality conforming to IS:8931 a) 15 mm nominal bore			
	18.53.1	15mm nominal bore	each	14	
18.84		Providing & fixing chrome plated brass battery based infrared sensor operated pillar cock, having foam flow technology.			
	18.58.1.1	100 mm nominal dia	each	14	
	18.58.1.2	125 mm nominal dia with 25 mm waste hole	each	7	



17.69		Providing and fixing PTMT Waste Coupling for wash basin and sink, of approved quality and colour.			
	17.69.1	Waste coupling 31 mm dia of 79 mm length and 62mm breadth weighing not less than 45 gms	each	15	
	17.69.2	Waste coupling 38 mm dia of 83 mm length and 77mm breadth, weighing not less than 60 gms	each	20	
17.70.1		Providing and fixing PTMT Bottle Trap for Wash basin and sink. Bottle trap 31mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 260 gms	each	27	
17.71		Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	each	21	
17.72		Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	each	21	
17.73.1		Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour. 450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	each	8	
		<b>II-SOIL,WASTE, VENT &amp; RAIN WATER PIPES</b>			
17.35		Providing and fixing soil, waste and vent pipes :			
	17.35.1	100 mm dia			

	17.35.1.2	Centrifugally cast (spun) iron socket & spigot (S&S) pipe				
		as per IS: 3989	metre	270		
	17.35.2	75 mm diameter :				
	17.35.2.2	Centrifugally cast (spun) iron socketed pipe as per				
		IS: 3989	metre	65		
17.36		Providing and filling the joints with spun yarn, cement slurry and cement mortar 1:2 ( 1 cement : 2 fine sand) in S.C.I./ C.I. Pipes :				
	17.36.1	75 mm dia pipe	each	18		
	17.36.2	100 mm dia pipe	each	90		
17.37		Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc. :				
	17.37.1	For 100 mm dia pipe	each	52		
	17.37.2	For 75 mm dia pipe	each	15		
17.38		Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm dia				
	17.38.1.2	Sand cast iron S&S as per IS - 3989	each	45		
17.39		Providing and fixing plain bend of required degree.				
	17.39.1	100 mm dia				
	17.39.1.2	Sand cast iron S&S as per IS : 3989	each	27		
	17.39.2	75 mm dia				
	17.39.2.2	Sand cast iron S&S as per IS - 3989	each	2		
17.4		Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				

	17.40.1.2	Sand cast iron S&S as per IS - 3989	each	9		
17.41		Providing and fixing double equal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete :				
	17.41.1	100x100x100x100 mm				
	17.41.1.2	Sand cast iron S&S as per IS - 3989	each	2		
17.42		Providing and fixing double equal plain junction of required degree.				
	17.42.1	100x100x100x100 mm				
	17.42.1.2	Sand cast iron S&S as per IS - 3989	each	2		
17.43		Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
	17.43.1.2	Sand cast iron S&S as per IS - 3989	each	20		
17.44		Providing and fixing single equal plain junction of required degree :				
	17.44.1	100x100x100 mm				
	17.44.1.2	Sand cast iron S&S as per IS - 3989	each	12		
17.48		Providing and fixing single unequal plain junction of required degree :				
	17.48.1	100x100x75 mm				
	17.48.1.2	Sand cast iron S&S as per IS - 3989	each	1		
17.50		Providing and fixing single equal plain invert branch of required degree :				
	17.50.1	100x100x100 mm				
	17.50.1.2	Sand cast iron S&S as per IS - 3989	each	5		
17.52		Providing and fixing single unequal plain invert branch of required degree :				
	17.52.1	100x100x75 mm				

	17.52.1.2	Sand cast iron S&S as per IS - 3989	each	1		
17.54		Providing and fixing sand cast iron S&S off sets as per IS: 3989 :				
	17.54.1	75 mm off sets				
	17.54.1.1	With 75 mm dia pipe	each	1		
	17.54.2	150 mm off sets				
	17.54.2.1.	With 75 mm dia pipe	each	1		
	17.54.2.2	With 100 mm dia pipe	each	9		
17.55		Providing and fixing door piece, insertion rubber washer 3mm thick, bolts & nuts complete :				
	17.55.1	100 mm				
	17.55.1.2.	17.55.1.2 Sand cast iron S&S as per IS - 3989	each	5		
	17.55.2.2	75 mm				
		Sand cast iron S&S as per IS - 3989	each	1		
17.56		Providing and fixing terminal guard :				
	17.56.1	100 mm				
	17.56.1.2	17.56.1.2 Sand cast iron S&S as per IS - 3989	each	12		
17.57		Providing and fixing collar :				
	17.57.1	100 mm				
	17.57.1.2	sand cast iron S&S as per IS - 3989	each	24		
	17.57.2	75 mm				
	17.57.2.2	Sand cast iron S&S as per IS - 3989	each	1		
17.58		Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter :				
	17.58.1	100 mm	each	24		
17.59		Providing and fixing M.S. stays and clamps for sand cast iron/ centrifugally cast (spun) iron pipes of diameter :				
	17.59.1	100 mm	each	48		
	17.59.2	75 mm	each	5		

17.6		Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :			
	17.60.1	100 mm inlet and 100 mm outlet			
	17.60.1.1	Sand cast iron S&S as per IS: 3989	each	24	
	17.60.2	100 mm inlet and 75 mm outlet			
	17.60.2.1	Sand cast iron S&S as per IS - 3989	each	1	
17.61		Cutting chases in brick masonry walls for following diameter sand cast iron/ centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 ( 1 cement : 3 coarse sand :6 graded stone aggregate 12.5 mm nominal size), including necessary plaster and pointing in cement mortar 1:4 (1 cement : 4 coarse sand) :			
	17.61.1	100 mm dia	metre	25	
	17.61.2	75 mm dia	metre	1	
17.65		Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :			
	17.65.1	100 mm diameter pipe	metre	83	
	17.65.2	75 mm diameter pipe	metre	5	
17.77		Providing and fixing M.S. holder bat clamp of approved design to sand cast iron/ cast iron (spun) pipes comprising of M.S. flat brackets made of 50x5 mm flat of specified shape, projecting 75 mm outside the wall surface and fixed on wall with 4nos, 6mm dia expansion hold fasteners, including drilling necessary holes in brick wall/ CC/ RCC surface and the cost of bolts etc. The pipes shall be fixed to the already fixed brackets with the help of 30 mm x1.6 mm galvanised M.S. flats of specified shape and of total length 420 mm and shall be fixed with M.S. nuts, bolts, & washers of size 25x6 mm, one bolts on each side of the pipe.			

	17.77.1	Total bracket length 580 mm of approved shape and design (for single 100 mm dia pipe)	each	3		
	17.77.2	Total bracket length 810 mm of approved shape and design (for two 100 mm dia pipes)	each	2		
	17.77.3	Total bracket length 1040 mm of approved shape and design (for three 100 mm dia pipes)	each	1		



		<b>III - WATER SUPPLY SYSTEM</b>				
		<b>C.P.V.C. PIPES</b>				
18.7		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
		<b>Internal work - Exposed on wall</b>				
	18.7.4	32 mm nominal outer dia Pipes	metre	45		
	18.7.5	40 mm nominal outer dia Pipes	metre	35		
	18.7.6	50 mm nominal outer dia Pipes	metre	25		
18.8		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		<b>Concealed work,</b>				
		including cutting chases and making good the walls etc.				
	18.8.2	20 mm nominal outer dia Pipes	metre	195		
	18.8.3	25 mm nominal outer dia Pipes	metre	49		
	18.8.4	32 mm nominal outer dia Pipes	metre	36		
18.9		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement ,trenching ,refilling & testing of joints complete as per direction of Engineer in Charge.				



		<b>External work for Garden Hydrant</b>				
	18.9.2	20 mm nominal outer dia Pipes	metre	25		
	18.9.3	25 mm nominal outer dia Pipes	metre	15		
	18.9.4	32 mm nominal outer dia Pipes	metre	6		
	18.9.5	40 mm nominal outer dia Pipes	metre	45		
	18.9.6	50 mm nominal outer dia Pipes	metre	185		
	18.9.7	62.50 mm nominal inner dia Pipes	metre	12		
18.1		Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		<b>Internal work - Exposed on wall</b>				
	18.10.1	15 mm dia nominal bore	metre	12		
	18.10.2	20 mm dia nominal bore	metre	32		
	18.10.3	25 mm dia nominal bore	metre	12		
	18.10.4	32 mm dia nominal bore	metre	12		
	18.10.5	40 mm dia nominal bore	metre	28		
	18.10.6	50 mm dia nominal bore	metre	24		
18.12		Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.				
		<b>External work</b>				
	18.12.1	15 mm dia nominal bore	metre	6		
	18.12.2	20 mm dia nominal bore	metre	6		
	18.12.3	25 mm dia nominal bore	metre	12		
	18.12.4	32 mm dia nominal bore	metre	12		
	18.12.5	40 mm dia nominal bore	metre	24		
	18.12.6	50 mm dia nominal bore	metre	69		
	18.12.7	65 mm dia nominal bore	metre	18		
	18.12.8	80 mm dia nominal bore	metre	18		
18.13		Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :				
	18.13.1	25 to 40 mm nominal bore	each	9		
	18.13.2	50 to 80 mm nominal bore	each	2		

18.14		Fixing water meter and stop cock in G.I. pipe line including cutting and threading the pipe and making long screws etc. complete (cost of water meter and stop cock to be paid separately).	each	1		
18.17		Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
	18.17.1	25 mm nominal bore	each	1		
	18.17.2	32 mm nominal bore.	each	2		
	18.17.3	40 mm nominal bore	each	4		
	18.17.4	50 mm nominal bore	each	2		
	18.17.5	65 mm nominal bore	each	4		
	18.17.6	80 mm nominal bore	each	2		
18.18		Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	18.18.1	15 mm nominal bore	each	2		
	18.18.2	20 mm nominal bore	each	1		
	18.18.3	25 mm nominal bore	each	1		
18.19		Providing and fixing gun metal non- return valve of approved quality (screwed end) :				
	18.19.3	40 mm nominal bore				
	18.19.3.2	Vertical	each	2		
	18.19.4	50 mm nominal bore				
	18.19.4.2	Vertical	each	1		
	18.19.5	65 mm nominal bore				
	18.19.5.2	Vertical	each	2		
18.2		Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main :				
	18.20.3	25 mm nominal bore	each	2		

18.32.1		Constructing masonry Chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 ( 1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design : With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	1	
18.33		Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size ) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :			
	18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	1	

18.34		<p>Constructing masonry Chamber 90x90x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size ), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :</p>			
	18.34.1	<p>With common burnt clay F.P.S.(non modular) bricks of class designation 7.5</p>	each	1	
18.35.1		<p>Constructing masonry Chamber 120x120x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete :5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : With common burnt clay F.P.S.(non modular) bricks of class designation 7.5</p>	each	1	

18.36.1		Constructing masonry Chamber 60x60x75 cm, inside in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for fire hydrants, with C.I. surface box 350x350 mm top and 165 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	2		
18.38		Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work :				
	18.38.1	15 mm diameter pipe	metre	6		
	18.38.2	20 mm diameter pipe	metre	6		
	18.38.3	25 mm diameter pipe	metre	12		
	18.38.4	32 mm diameter pipe	metre	12		
	18.38.5	40 mm diameter pipe	metre	18		
	18.38.6	50 mm diameter pipe	metre	69		
18.39		Repainting G.I. pipes and fittings with synthetic enamel white paint with one coat of approved quality :				
	18.39.1	15 mm diameter pipe	metre	6		
	18.39.2	20 mm diameter pipe	metre	6		
	18.39.3	25 mm diameter pipe	metre	12		
	18.39.4	32 mm diameter pipe	metre	12		
	18.39.5	40 mm diameter pipe	metre	18		
	18.39.6	50 mm diameter pipe	metre	69		
18.4		Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :				
	18.40.5	40 mm diameter pipe	metre	12		
	18.40.6	50 mm diameter pipe	metre	47		

18.41		Providing and filling sand of grading zone V or coarser grade, all- round the G .I. pipes in external work :				
	18.41.5	40 mm diameter pipe	metre	12		
	18.41.6	50 mm diameter pipe	metre	48		
18.43		Providing and placing in position filters of 40 mm diameter G.I. pipe with brass strainer of approved quality.	metre	50		
18.44		Providing and fixing to filter and lowering to proper levels 40 mm G.I. pipe for tube well including cleaning and priming the tube well.	metre	50		
18.46		Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work) :				
	18.46.1	15 mm nominal bore	each	2		
	18.46.2	20 mm nominal bore	each	4		
	18.46.3	25 mm nominal bore	each	5		
	18.46.4	32 mm nominal bore	each	4		
	18.46.5	40 mm nominal bore	each	3		
	18.46.6	50 mm nominal bore	each	6		
	18.46.7	65 mm nominal bore	each	4		
	18.46.8	80 mm nominal bore	each	2		
18.48		Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	per litre	30000		
18.59		Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc if required will be paid separately) :				
	18.59.1	50 mm dia	each	1		

18.60		Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by Municipal Board complete with bolts, nuts, rubber insertions etc. (The tail pieces if required will be paid separately) :				
	18.60.1	80 mm dia nominal bore	each	1		
18.61		Providing and fixing C.I. dirt box strainer for bulk type water meter with nuts, bolts, rubber insertions etc. complete conforming to IS : 2373 :				
	18.61.1	80 mm dia	each	1		
18.75		Providing and fixing PTMT extension nipple for water tank pipe, fittings of approved quality and colour.				
	18.75.2	20mm nominal bore, weighing not less than 40 gms	each	6		
	18.75.3	25mm nominal bore, weighing not less than 62 gms	each	4		
18.76		Cutting holes up to 30x30 cm in walls including making good the				
		same:				
	18.76.1	With common burnt clay F.P.S. (non modular) bricks	each	2		
18.77		Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	each	12		
18.78		Making chases up to 7.5x7.5 cm in walls including making good and finishing with matching surface after housing G.I. pipe etc.	metre	15		
		<b>IV- SEWERAGE &amp; DRAINAGE SYSTEM</b>				

		<b>NOTE : -The rates given for all the items under sub-head ' Drainage' are applicable to work executed in soils above sub- soil water level. Extra allowance has to be made for work under sub- soil water level.</b>			
		<b>STONE WARE PIPES AND FITTINGS</b>			
19.1		Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :			
	19.1.1	100 mm diameter	metre	5	
	19.1.2	150 mm diameter	metre	5	
	19.1.3	200 mm diameter	metre	25	
19.2		Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design :			
	19.2.1	100 mm diameter S.W. pipe	metre	1	
	19.2.2	150 mm diameter S.W. pipe	metre	8	
	19.2.3	200 mm diameter S.W. pipe	metre	24	
19.3		Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :			
	19.3.2	150 mm diameter S.W./R.C.C. pipe	metre	497	
	19.3.3	200 mm diameter S.W. / R.C.C.pipe	metre	5	
	19.3.4	250 mm diameter S.W. / R.C.C.pipe	metre	12	
19.4		Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :			



	19.4.1.2	100x100 mm size P type With Sewer bricks conforming to IS : 4885	each	5		
17.29		Providing and fixing 100 mm sand cast Iron grating for gully trap.	each	5		
19.6		Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	metre	5		
	19.6.3	250 mm dia. R.C.C. pipe	metre	12		
19.7		Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :				
	19.7.1.2	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) : With Sewer bricks conforming to IS : 4885	each	2		

	19.7.2.2	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) : With Sewer bricks conforming to IS : 4885	each	4		
	19.7.3.2	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg) : With Sewer bricks conforming to IS : 4885	each	2		
19.8		Extra for depth for manholes :				
	19.8.1	Size 90x80 cm				
	19.8.1.2	With Sewer bricks conforming to IS : 4885	metre	0.25		
	19.8.2	Size 120x90 cm				
	19.8.2.2	With Sewer bricks conforming to IS : 4885	metre	0.25		

19.9		<p>Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design : 0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :</p>				
	19.9.1.2	With Sewer bricks conforming to IS : 4885	each	1		
19.10		<p>Extra depth for circular type manhole 0.91m internal dia (at bottom)</p> <p>beyond 0.91 m to 1.67 m</p>				
	19.10.2	With Sewer bricks conforming IS : 4885	metre	0.25		

19.11	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
19.11.1	1.68 m deep with SFRC Cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :				
19.11.1.2	With Sewer bricks conforming IS : 4885	each	1		
19.12	Extra depth for circular type manhole 1.22 m internal dia (at bottom) beyond 1.68 m to 2.29 m :				
19.12.2	With Sewer bricks conforming IS : 4885	metre	0.25		
19.15	Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :				
19.15.1	With 20x20 mm square bar	each	22		
19.15.2	With 20 mm diameter round bar	each	2		

19.16		Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS : 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	each	4		
19.19		Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality L D-2.5				
	19.19.2	MD - 10				
	19.19.2.1	Square shape 450 mm internal dimension	each	1		
	19.19.2.2	Circular shape 500 mm internal diameter	each	3		
19.20		Supplying and fixing C.I. cover 300x300 mm without frame for gully trap (standard pattern) the weight of cover to be not less than 4.5 kg	each	5		
19.21		Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement and making necessary channels for the drain etc. complete :				
	19.21.1	For pipes 100 to 250 mm diameter	each	1		

19.27.1	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design : With common burnt clay F.P .S. (non modular) bricks of class designation 7.5	each	4		
19.28.1	Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand ) with pre- cast R.C.C. vertical grating complete as per standard design : With common burnt clay F.P .S. (non modular) bricks of class designation 7.5	each	2		
19.29.1	Constructing brick masonry road gully chamber 110x50x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame and vertical grating complete as per standard design :				
19.29.1	With common burnt clay F.P .S. (non modular) bricks of class designation 7.5	each	2		
19.30	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design :				
19.30.1	Inside dimensions 455x610 mm and 45 cm deep for single pipe line :				

	19.30.1.1	With common burnt clay F.P .S. (non modular) bricks of class designation 7.5	each	31		
	19.30.2.1	With common burnt clay F.P .S. (non modular) bricks of class designation 7.5				
	19.30.3	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets :				
	19.30.3.1	With common burnt clay F.P .S. (non modular) bricks of class designation 7.5	each	1		
19.34		Providing and fixing S.W. intercepting trap in manholes with stiff mixture of cement mortar 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
	19.34.2	150 mm dia <b>RAIN WATER HARVESTING / TUBE WELL</b>	each	1		
24.1		Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 90 meter depth below ground level.				
	24.1.1	All types of soil				
	24.1.1.1	300 mm dia	metre	40		
	24.1.1.3	400 mm dia	metre	125		
24.2		Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, beyond 90 meter & upto 150 meter depth below ground level.				

	24.2.1	All types of soil				
	24.2.1.1	300 mm dia	meter	1		
	24.2.1.3	400 mm dia	meter	1		
24.3		Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
	24.3.2	150 mm nominal size dia	Metre	60		
	24.3.3	200 mm nominal size dia	Metre	80		
24.4		Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge				
	24.4.2	150 mm nominal size dia	meter	60		
	24.4.3	200 mm nominal size dia	meter	40		
24.5		Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge. Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	cum	5.38		
24.6		Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	cum	3.5		



24.7	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge.	cum	5.5	
24.8	Gravel packing in tube well construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	cum	18.25	
24.9	Providing and fixing factory made precast RCC perforated drain covers, having concrete of strength not less than M-25, of size 1000 x 450x50 mm, reinforced with 8 mm dia four nos longitudinal & 9 nos cross sectional T.M.T. hoop bars, including providing 50 mm dia perforations @ 100 to 125 mm c/c, including providing edge binding with M.S. flats of size 50 mm x 1.6 mm complete, all as per direction of Engineer-in-charge.	each	2	
24.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "\V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, i/c disinfection of tube well, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	hour	44	
24.13	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for bore well of:			

	24.13.2	150 mm dia	each	1		
24.14		Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tube well as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.				
	24.14.2	150 mm clamp	each	1		
	24.14.3	200 mm clamp	each	1		
24.15		Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tube well as per IS:2800 (part I).				
	24.15.2	150 mm dia	each	3		
		<b>Total Rain Water Harvesting &amp; Tube Well</b>				
App'07		Supply and filling of cinder 12.5 mm nominal size in sunk portion of W.C., kitchen roofs etc. including light ramming.	CUM	23.98		
		<b>TOTAL</b>				
Approved Rate Analysis		P/F 3 mm thick epoxy floor topping of sika/ cibagaigy/Mc Bauchemy or equivalent make comprising of 1.00 mm thick self levelling epoxy (sika floor 2615) or equivalent over 2 mm epoxy cement moulded self levelling screed (sika or equivalent floor 81 epocem) with epocem primer (sika floor 80 or equivalent) complete with necessary surface preparation etc. complete as per manufacturer specifications to the satisfaction of engineer in charge.	sqm	122.82		

E.E.(PR)-I Shah (N)

A.E.

J.E.

**Part B:- Electrical, Lifts, Fire Fighting etc.  
Schedule**

**PART-B- ELECTRICAL, LIFT, FIRE FIGHTING ETC.**

DSR No.	Particulars	Qty	Unit	Rate	Amount
	<b>SUB HEAD I (WIRING)</b>				
1.10	Wiring for light point/fan point/exhaust fan point/call bell point with 1.5 Sq.mm. FR PVC insulated copper conductor single core cable in surface/recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 Sq.mm. FR PVC insulated copper conductor single core cable etc. as required.				
1.10.3	Group C Unit read as Point instead of each	474	Each		
1.12	Wiring for light/power plug with 2 x 4 sq.mm.FR PVC insulated copper conductor single core cable in surface/recessed medium class PVC conduit along with 1 No. 4 sqm FR PVC insulated copper conductor single core cable for loop earthing as required	774	Metre		
1.14	Wiring for circuit/sub-main wiring along with earth wire with the following sizes of PVC insulated copper conductor, single core cable in surface / recessed medium class PVC conduit as required.				
1.14.2	2 x 2.5 sq.mm. + 1 x 2.5 sq.mm. earth wire	710	Metre		
1.14.3	2 x 4.0 sq.mm. + 1 x 4.0 sq.mm. earth wire	552	Metre		
1.14.4	2 x 6.0 sq.mm. + 1 x 6 sq.mm. earth wire	533	Metre		
1.14.5	2 X 10 sq. mm + 1 X 10 sq. mm earth wire	120	Metre		
1.14.8	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	150	Metre		
1.14.10	4 x 10 sq.mm.+2 x 10 sq.mm. earth wire	30	Metre		
1.14.11	4 x 16 sq.mm.+2 x 16 sq.mm. earth wire	90	Metre		
MR	Providing, laying, connecting and testing of voice/ data/ computer Cat-6 cable along wall or ceiling or through existing pipe, including penta scanning documentation etc as required.	1550	Metre		
MR	Providing, laying, connecting and testing of unarmored TV cable RG-6 PVC insulated cable along wall or ceiling or through existing pipe.	770	Metre		
	<b>Fire Alarm system items</b>				

1.20	Supplying & Fixing of following sizes of Steel conduit along with accessories in surface/ recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
1.20.2	25 mm	546	Meter		
1.17	Supplying and drawing following sizes of FR PVC insulated copper conductor, single core cable in the existing surface / recessed steel / PVC conduit as required.				
1.17.2	2x1.5 sq mm.	655	Mtrs		
1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface / recess including cutting the wall and making good the same in case of recessed conduit as required. (Telephone, LV )				
1.21.2	25 mm	1,608	Metre		
1.21.3	32 mm	350	Metre		
1.22	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc. as required.				
1.22.5	180 mm x 100 mm x 60 mm deep	5	Each		
1.22.7	200 mm x 150 mm x 60 mm deep	10	Each		
1.24	Supplying and fixing following modular switch / socket on the existing modular plate and switch box including connections but excluding modular plate etc as required.				
1.24.1	5/6 Amp switch	129	Each		
1.24.3	15/ 16 A Switch	71	Each		
1.24.4	3 pin 5/6 Amp socket outlet	129	Each		
1.24.5	6 pin 15/16 A socket outlet	71	Each		
1.24.6	Telephone socket outlet	26	Each		
MR	RJ-45 Socket outlet	23	Each		
1.24.7	TV antenna socket outlet	18	Each		
1.26	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	100	Each		
1.27	Supplying and fixing following size/ modules, G.I. box along with modular base & cover plate for modular switches in recess etc as required				

1.27.1	1 or 2 Module (75 mm x 75 mm)	175	Each		
1.27.2	3 Module (100mmX75mm)	180	Each		
1.27.3	4 Module (125mmX75mm)	34	Each		
1.27.4	6 Module (200 mm x 75 mm)	10	Each		
1.27.5	8 Module (125mmX125mm)	10	Each		
MR	Supplying and fixing telephone tag block of 30 Pair capacity in a suitable lockable G.I box complete including connections etc. as required.	1	Nos.		
<b>Total of Sub Head - I</b>					

	<b>Sub Head - II (Fittings)</b>				
MR	Supplying Prewired fluorescent fitting/compact fluorescent light fitting surface type store enameled control gear duly wired complete with electronic choke, rotor, starter, starter holder, condenser, lamp/ tube light end plates/retainers etc. ready to use complete as required.				
MR	1 x 11 watt mirror light box type fluorescent luminaire complete with lamp and electronic ballast.	22	Nos.		
MR	2X18W CFL recess mounted Downlighter with mirror bright reflector , clear glass and electronic control gear complete with lamp as required.	85	Nos.		
MR	1X18W CFL recess mounted Downlighter with mirror bright reflector , clear glass and electronic control gear complete with lamp as required.	52	Nos.		
MR	3X14W T5 recess mounted fixture with High Transmission Efficiency (HiTe)diffuser complete with lamp as required.	127	Nos.		
MR	1X28W T5 Fixture suitable for wall mounting complete with lamp as required.	39	Nos.		
MR	1x9 watt CFL bulk head fitting	13	Nos.		
MR	Indoor emergency exit sign wall/pendent mounting luminaire with 1 hour backup complete with all accessories, viewing either from one side from wall mounting type or viewing from two sides suspended type. Suitable for single TC-L Lamp.	15	Nos.		
MR	Supplying and erecting outdoor wall washer decorative LED linear streetlight fitting with complete driver set warm white colour options 60 W , 6500 K, 150-290 V AC 50 Hz on provided bracket.	6	Each		
MR	Supplying and erecting Street Light Bracket for erection of single fitting on tubular welded pole with 40 mm dia, 1 m long B grade G.I. pipe along with pole cap of 125 mm dia, 600 mm long duty welded.	5	Each		
MR	Supplying and erecting Solar street light fitting with 9/11 W CFL , with pole, CC Foundation, 12 V, 75 AH battery complete as required.	4	Each		

Note-	While framing the estimate of solar street light with solar PV panel, battery, converter, the above items should be taken along with provided street light pole bracket and necessary street light fittings.				
1.41	Installation, testing and commissioning of pre-wired, fluorescent fitting/ compact fluorescent fitting of all types, complete with all accessories and tube etc. directly on ceiling / wall , including connection with 1.5 sq. mm. FR PVC insulated, copper conductor, single core cable and earthing etc as required.	338	Each		
1.45	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	12	Each		
1.49	Numbering of ceiling fan / exhaust fan / fluorescent fittings as required.	150	Each		
1.50	Installation of exhaust fan upto 450 mm sweep in the existing opening, including making good the damage, connection, testing, commissioning etc as required.	28	Each		
	Supply of white colour blade ceiling fan of following sizes capacitor type complete with down rod canopies hanging shackles, blades, without regulator suitable for use on 220/240 volts 50 Hz single phase A.C. Supply conforming to IS 374/1979.				
MR	1200 mm sweep	12	Nos.		
	Supply and installation of metal blade Heavy duty wall fan 450 mm sweep with all accessories complete as required.				
MR	450 mm sweep	67	Nos.		
	Supply of metal blade Light duty Exhaust fan 300 mm sweep double bearings complete with louvers, mounting ring, blades etc. complete as required.				
MR	300 mm sweep	28	Nos.		
	<b>Total of Sub Head - II</b>				
	<b>Sub Head - III (Distribution and Earthing)</b>				



MR	Providing, Installing, Testing and Commissioning of 'Silent Type' Diesel Generating set alongwith having Prime Power Rating of <b>125 KVA</b> , 415 volts at 1500 RPM, 0.8 lagging power factor at 415 V suitable for 50 Hz, 3 phase system & for 0.85 Load Factor and consisting of the following :				
a)	Diesel Engine :				
	Diesel engine 4 stroke water cooled, electric start, of suitable BHP at 1500 RPM suitable for above output of alternator at 40 Degree C, 50% RH & at 1000 meter MSL and conforming to BS 5514, BS 649, IS 10000, capable of taking 10% over loading for one hour after 12 hours of continuous operation. The engine will be fitted complete with all the required accessories.				
b)	Engine mounted instrument Panel fitted with and having digital display for following :				
i)	Start-Stop switch with key				
ii)	Water temperature indication				
iii)	Lubrication oil pressure indication				
iv)	Lubrication oil temperature indication				
	Battery charging indication				
	RPM indication				
	Over speed indication				
	Low lub. Oil trip indication				
	Engine Hours indication				
c)	Alternator				
	Synchronous alternator rated at <b>125 KVA</b> , 415 volts at 1500 RPM, 3 phase 50 Hz, AC supply with 0.8 lagging power factor at 40 Degree C, 50% RH & at 1000 Meter MSL. The alternator shall be having SPDP enclosure, brushless, continuous duty, self excited and self-regulated through AVR conforming to IS : 4722/BS 2613 suitable for tropical conditions and with class-F/H insulation.				
d)	Base Frame & Foundation :				
	Both the engine and alternator shall be mounted on suitable base frame made of MS channel with necessary reinforcement which shall be installed on suitable cement concrete foundation and vibration isolation arrangement as per recommendations of manufacturer.				
e)	Fuel Tank :				

	Daily service fuel tank of <b>225 Litres</b> capacity fabricated out of 3 mm thick M.S. sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complet with valves, level indications & accessories as required as per specifications.				
f)	Exhaust System :				
	Dry exhaust manifold with hospital exhaust silencer and catalytic convertor.				
g)	Starting System				
	12V/24V DC starting system comprising of starter motors : voltage regulator and arrangement for initial excitation complete with suitable nos. of batteries (25 plates, 180 Amp. Hour capacity lead acid type) as required as per specifications.				
h)	Accoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine & alternator, extraction, discharging hot air in to the atmosphere as per specifications.				
B)	AMF Panel				
	Fabricating, Installing, Testing & Commissioning of automatic mains failure control including auto by-pass panel, suiable for 625 KVA silent type DG set complete with relays, timers, set of CTs for metering & protection and energy analyser to indicate currents, phase and line voltages, frequency, power factor, KWH, KVARH & provision for overload, short circuit, restricted earth fault, under frequency, control cabling from AMF panel to diesel engine and elsewhere, if required, all complete and inter locking including the following :				
a)	1 No. 250 amp., 4 pole Switch fuse disconnecter unit				
b)	Auto/Manual/Test/ Off selectro switch				
c)	2 Nos. over voltage relay, 2 nos. reverse power relay and 2 nos. under voltage relay.				
d)	3 Sets of current transformers				
e)	Energy analyser unit to indicate current voltage frequency power factor and KWH.				
f)	Indicating lamps for load on mains and load on set.				
g)	Fuse for instruments.				

	h) Battery charger, complete with transformer/rectifier, D.C. voltmeter and ammeter, selector switch for trickle, off and boost and current adjustment.				
	i) Main supply failure monitor				
	j) Supply failure timer				
	k) Restoration timer				
	l) Control unit with three impulse automatic engine start/stop and failure to start lockout.				
	m) Impulse counter with locking and reset facility.				
	n) ON/OFF/Control circuit switch with indicator				
	o) Audio/Video annunciation for				
	i) High water temperature				
	ii) Low lubricating oil pressure				
	iii) Engine over speed				
	iv) Engine fails to start				
	v) Full load maximum load warning				
	Complete as above				
	Unit read as Set instead of work	1	work		
	Supplying, installation, testing and commissioning of main electrical panel fully compartmentalized cubical type sheet clad wall mounted totally enclosed, suitable for use on 415 Volts 3-phase, 4 wire, 50 Hz system having 35kA fault capacity, housed with incoming and outgoing, Aluminium bus bars with appropriate current rating bus bars, interconnection etc. with indication lamps, accessories etc, as required as per specification and schematic diagram as required.				
	One No. 250 A FP MCCB as main supply incomer				
	One No. 250 A FP MCCB as DG supply incomer				
	One No. 250 A FP MCCB automatic transfer switch				
	Two nos. kWh meters				
	Eight nos. 63 A FP MCCBs as outgoing				
	Fifteen nos 40 A DP MCB as outgoing				
	One no. 100 A FP MCCB				
MR	One no. 125 A FP MCCB as Spare				
	Unit read as Set instead of work	1	work		

D)	Same as above item no. - 2 but following mountings. (Lift Panel)				
	INCOMER:-				
	1 Nos. 100 Amps. TPN MCCB(25 KA) with electronic releases.				
	1 Set phase indication lights (R, Y, B)				
	1 No. Volt Meter (digital type) with inbuilt VSS & control fuses.				
	1 No. 0-100 Amp. Ammeter (digital type) with inbuilt ASS				
	4 nos 16 A SP MCBs				
	2 No. 32 A DP MCBs				
NS-INEL-14D	1 No. 63 A FP MCCB Unit read as Set instead of work	1	Work		
2.7	Supplying and fixing following way prewired SP&N MCB distribution board of steel sheet for 240 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)				
2.7.5	2 + 8 way, Double door	6	Each		
2.7.6	2 + 12 way, Double door	10	Each		
2.8	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required.(But without MCB/ RCCB/ Isolator)				
2.8.7	8 way (4 + 24), Double door	2	Each		
2.8.8	12 way (4 + 36), Double door	2	Each		

2.10	Supplying and fixing 5 amps to 40 amps rating, 240 volts, 'C' series, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc as required. (*All light, power and ups loads will be provided with C series 5-32 Amp MCB)				
2.10.1	Single pole	288	Nos.		
2.14	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
2.14.2	40 amps	28	Nos.		
2.20	Supplying and fixing 30 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 amps "C" curve, TPN MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required. (For UPS INLET).	1	Nos.		
	Supplying and fixing following rating, 4 Pole, 415 volts, MCB in the existing DB complete with connections, testing and commissioning etc. as required.				
MR	63 Amp	4	Nos.		
	Supplying and fixing following rating, single phase AC motor Starter complete with suitable size G.I. Box, Modular Plate, connections, testing and commissioning etc. as required.				
MR	25 Amp	34	Nos.		
	Supply, testing and commissioning of following size PVC insulated, PVC sheathed aluminum / Cu armoured 1.1 KV Grade XLPE cables direct in ground including excavation sand cushioning, protective covering and refilling the trench etc. as required. (As per IS 1554).				
MR	3.5C x 185 sq mm Al	35	meter		
MR	4C x 16 sq mm Al	25	meter		
MR	3C x 4 sq mm Cu	100	meter		

7.1	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
7.1.4	Above 185 sq. mm and upto 400 sq. mm	35	Metre		
7.7	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.				
7.7.1	Upto 35 sq. mm (clamped with 1mm thick saddle)	125	Metre		
9.1	Supplying and making end termination with brass compression gland and aluminum lugs for following size of PVC insulated and PVC sheathed / XLPE aluminum conductor cable of 1.1 KV grade as required.				
9.1.27	3½ X 185 sq. mm (57mm)	6	Each		
9.1.33	4 X 16 sq. mm (28mm)	2	Each		
9.1.1	3 X 4 sq. mm (19mm)	12	Each		
5.4	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.(one for LT Panel, two nos for DG body earth, One no. for UPS earth). Unit read as Set instead of work	6	work		
5.2	Earthing with G.I. earth pipe 4.5 meter long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal / coke and salt as required. Unit read as Set instead of work	1	work		
5.6	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 m long etc. with charcoal / coke and salt as required. (two for DG Neutral earth, one for data rack earth). Unit read as Set instead of work	4	work		

MR	Supply, installation, Testing and Commissioning of 3 kVA online UPS complete with 60 minutes power backup with PWM technology suitable for three phase AC input voltage $415 \pm 1\%$ V, $50 \pm 0.5$ Hz. It shall be housed in rugged enclosure made of MS sheet 1.2 mm (minimum) thick aesthetically finished, duly pre- treated and powder coated. Unit read as Set instead of work	2	work		
	<b>Sub Head -IV (CCTV System)</b>				
MR	Supply, installation, testing and commissioning of CCD coloured cameras, 1/3 inch 480 lines, HIGH RESOLUTION, 0.1 lux with 3/ 4 mm fixed lens with IR LEDs for Day and night vision complete as required in mini dome shape fixed type, including all wiring from the control module in existing PVC conduits complete as required.	11	Set		
MR	Supply, installation, testing and commissioning of 16 – channel colour Digital Video Mgmt system with 16 cameras inputs Built in multiplexer, Digital Video recorder, Video motion Detection system, with external alarm inputs & outputs TCPIP network feature & 1 TB HDD	1	Each		
MR	Supply, installation, testing and commissioning of colour high resolution LCD 40 inch coloured complete as required of SAMSUNG Make or equivalent	1	Each		
MR	Supply, installation, testing and commissioning of power supply unit with SMF batteries complete as required. (One no. for set of 5 cameras).	3	Each		
	<b>Sub Head -V (Air conditioning Units)</b>				
MR	Supply, installation, testing and commissioning of following capacity 3 star rating split type air conditioning units of specified make including the cost of copper tubing, automatic voltage stabilizer complete as required.				
MR	1.5 Ton	34	Each		





S.No.	DESCRIPTION OF ITEMS	QTY	UNIT	RATE	AMOUNT
<b>1</b>	<b>FIRE FIGHTING SYSTEM AND HYDRANT SYSTEM</b>				
	Providing, laying, testing and commissioning of C class heavy duty MS pipe conforming to IS: 1239 / IS:3589 including MS fittings like elbows, tees, flanges, tapers, nuts, bolts, gaskets etc., complete of following sizes as required.				
1.1					
<b>1.1.a</b>	25mm dia.	75.00	Metre		
<b>1.1.b</b>	32.mm dia.	18.00	Metre		
<b>1.1.c</b>	40 mm dia.	24.00	Metre		
<b>1.1.d</b>	50mm dia.	12.00	Metre		
<b>1.1.e</b>	65mm dia.	12.00	Metre		
<b>1.1.f</b>	80mm dia.	12.00	Metre		
<b>1.1.g</b>	100mm dia.	36.00	Metre		
<b>1.1.h</b>	150mm dia.	180.00	Metre		
<b>1.1.i</b>	200mm dia	12.00	Metre		
<b>1.2</b>	Painting for M.S. pipe with a coat of red oxide primer and two or more coats of synthetic enamel paint of approved colour and Quality to give an even shade including surface preparation.				
<b>1.2.a</b>	25 mm dia	75.00	Meter		
<b>1.2.b</b>	32.mm dia.	18.00	Meter		
<b>1.2.c</b>	40 mm dia.	24.00	Meter		
<b>1.2.d</b>	50mm dia.	12.00	Meter		
<b>1.2.e</b>	65mm dia.	12.00	Meter		
<b>1.2.f</b>	80 mm dia	12.00	Meter		
<b>1.2.g</b>	100 mm dia	36.00	Meter		
<b>1.2.h</b>	150 mm dia	45.00	Meter		
<b>1.2.i</b>	200 mm dia	12.00	Meter		

<b>1.3</b>	Providing and applying one coat of 4 mm thick 'PYPKOTE' or COATEK anti rust pipe protection including approved primer as per manufacturers specifications and lap of 25 mm to make an impermeable layer on MS pipes in trenches or on structural/masonry members complete including surface preparation			
<b>1.3.a</b>	80 mm dia	6.00	Meter	
<b>1.3.b</b>	100 mm dia	6.00	Meter	
<b>1.3.c</b>	150 mm dia	135.00	Meter	
<b>1.4</b>	Supplying and fixing <b>Stainless Steel -IS:3444 Grade-1</b> single headed internal/ external hydrant valve with instantaneous <b>Stainless Steel</b> couplings of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type - A) with blank Gunmetal cap and chain as required.	10.00	Each	
<b>1.5</b>	Supplying and fixing 63 mm dia, 15 mtr. long <b>Aqua Dura RRL</b> hose pipe with 63 mm dia Male and Female <b>Stainless Steel-IS:3444 Grade-1</b> couplings duly binded with GI wire, rivets etc. conforming to IS 636 / 903 (Type -A) as required.	20.00	Each	
<b>1.6</b>	Supplying and fixing First-Aid Hose Reel with MS construction spray painted in Post office Red, conforming to IS 884 with upto date amendments, complete with the following as required.			
<b>1.6.a</b>	30 m. long 20 mm (nominal internal) dia water hose rubber as per IS: 444 marked.			
<b>1.6.b</b>	20 mm (nominal internal) dia gun metal globe valve & nozzle.			
<b>1.6.c</b>	Drum and brackets for fixing the equipments on wall.			
<b>1.6.d</b>	Connections from riser with 25 mm dia stop valve (gun metal) & M.S. Pipe.  Unit read as Set instead of work	7.00	work	

<b>1.7</b>	Supplying & fixing 63 mm dia <b>Stainless Steel IS: 3444 Grade-1</b> branch pipe with 20 mm (nominal internal diameter) size S.S nozzle conforming to IS 903, suitable for instantaneous connection to interconnect hose pipe coupling as required.	10.00	Each	
<b>1.8</b>	Supplying and fixing of hose cabinet shutter of size 900 mm x 2100 mm, door frame made of 2 mm thick M.S. sheet and 40x40x5 Mild <b>Steel Angle Section with 6 mm thick</b> glazed glass doors i/c 'necessary locking arrangement , as required.Painted two Coats of P.O. Red Synthetic Enamel Paint Ovr One Coat Of Primer after surface prepration.	7.00	Each	
<b>1.9</b>	Supplying and fixing of hose cabinet of size 900 mm x 600 mm x 500 mm made of 2 mm thick MS sheet with 6 mm thick glazed glass doors i/c 'necessary locking arrangement suitable to accommodate external hydrant with butterfly valve, 2 Nos. 15 mtr. long Hose pipe, 1 No. branch pipe, mounted on wall OR raised brick platform & duly painted wi1th Post office red externally and white internally with synthetic enamel paint complete in all respect, for external hydrant, as required.	3.00	Each	
<b>1.10</b>	Providing, installation, testing and commissioning of dual plate non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc. as required.			
<b>1.10.a</b>	80mm dia	1.00	Each	
<b>1.10.b</b>	100mm dia	1.00	Each	
<b>1.10.c</b>	150mm dia	4.00	Each	
<b>1.10.d</b>	200mm dia	1.00	Each	

<b>1.11</b>	Supplying, fixing, testing and commissioning of butterfly valve PN 1.6, with Bronze/Gunmetal seat duly ISI marked complete with Nuts, Bolts, washers, gaskets, conforming to IS 13095 of following sizes as required.			
<b>1.11.a</b>	80mm dia	2.00	Each	
<b>1.11.b</b>	100mm dia	2.00	Each	
<b>1.11.c</b>	150mm dia	7.00	Each	
<b>1.11.d</b>	200mm dia	2.00	Each	
<b>1.12</b>	Providing and fixing brass ball valve (full bore type) with plastic coated lever and screwed female ends tested to 20 Kg/ cm <sup>2</sup> of approved quality as specified.			
<b>1.12.a</b>	25 mm dia	7.00	Each	
<b>1.12.b</b>	50 mm dia	1.00	Each	
<b>1.13</b>	Providing and fixing suction coupling for fire brigade drawl of water from tank with 150 mm dia GI (Medium) pipe and foot valve (Pipe max 8 M long).	1	Each	
<b>1.14</b>	Providing and fixing M.S. structural work fabricated from standard sections, (MS rounds, angles, channels etc.) including cutting to size, drilling welding including cost of (Hilti) fasteners, clamp in RCC structural members as directed, including two or more coats of synthetic enamel paint over one coat of primer after surface preparation including cutting and making good walls.	150	KG.	
<b>1.15</b>	Providing and fixing 150 mm dia C.I. double flanged sluice valves rated to PN 1.6 with C.I. Wheel bolts, nuts, washers 3mm thick insertion rubber gasket including matching flanges table E, complete.	3.00	Each	

<b>1.16</b>	Supplying and fixing 4 way fire brigade connection of cast iron body with 4 Nos. Gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for 150mm dia MS pipe connection, conforming to IS 904 as required.	1	Each	
<b>1.17</b>	Supplying and fixing 2 Way FBC of CI body with 2 No. Gun Metal male instantaneous inlet couplings complete with cap and chain as required. For 100 mm dia M.S. Pipe connection conforming to IS : 904 as required.	1	Each	
<b>1.18</b>	Providing and fixing gunmetal single acting air release valve with screwed inlet 25 mm dia.	3.00	Each	
<b>1.19</b>	Providing and fixing standard fireman's axe ( tested for 20000 Volts) with heavy insulated rubber handle.( ISI marked)	7.00	Each	
<b>1.21</b>	Providing and fixing pressure switch with suitable for 1-10 Kg/cm <sup>2</sup> including electrical connections setting of Cut-In and cut-Off pressure complete in all respects.	5.00	Each	
<b>1.22</b>	Providing, fixing, testing and commissioning 25mm diameter inspecting and testing assembly with gunmetal isolation valve gunmetal sight glass bypass 25dia valve and connected to 50mm drain line.	1.00	Each	
<b>1.23</b>	Providing and fixing 15 mm dia, Quartzoid bulb type G.M. Sprinkler Head set to operate at 68 <sup>0</sup> C (UL/FM/LPC/TAC listed/ Approved chrome plated complete with decorating Plate (Ressette)			
1.23.a	Pendant type with quartzoid bulb, operating temperature at 68oC as per specification with rosette plate.	25.00	Each	
1.23.b	Horizontal sidewall extended through sprinkler.	2.00	Each	

1.24	Flow switches suitable for fixing in 50mm to 150mm dia, complete with all accessories to provide indication in annunciator panel.	1.00	Each	
1.25	Providing and fixing 150 mm dia installation control valve complete with all accessories i.e. drain valve, pressure gauge etc. Unit read as Set instead of work	1.00	work	
	Excavating trenches of required width for pipes, cables etc. including excavation for sockets and dressing of sides, ramming of bottom depth upto 1.5 M including getting out the excavated soil and then returning the soil as required in layers not exceeding 20 cms in depth including filling jamuna sand around, consolidating each deposited layer by ramming, watering etc. and disposing of surplus excavated soil outside the site.			
1.26				
1.26.a	Pipes, cables etc. not exceeding 80 dia.	6.00	Meter	
1.26.b	Pipes, cables etc. exceeding 80 dia but not exceeding 150 mm dia.	135.00	Meter	
2.0	<b>FIRE PUMPS AND ACCESSORIES</b>			
2.1	Supplying, Installation, Testing and Commissioning of <b>Diesel engine driven main fire pump</b> suitable for automatic operation and consisting of following: complete in all respect as required.			
	<b>Horizontal type, multistage, centrifugal pump</b> of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a <b>minimum pressure of 3.5 kg/sq.cm</b> at highest and farthest outlet at specified flow of <b>1620 lpm at 56 m. head</b> conforming to IS 1520.			

	Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant BS& IS standard complete with auto starting mechanism, 12 volts/24 Volts electric starting equipment, Diesel Tank, exhaust pipe extended upto 1 m. outside pump house duly insulated with 50 mm thick glass wool with 1.0 mm. thick aluminium sheet cladding, residential silencer, instruments and protection as per specification, stop solenoid for auto stop in the event of fault with audio indications, painted with post office red colour etc.as required.			
	M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.			
	Suitable cement concrete foundation duly plastered with anti vibration pads.	1	Each	
<b>2.2</b>	Supplying, Installation, Testing and Commissioning of <b>Electric driven main fire pump</b> suitable. for automatic operation and consisting of following: complete in all respect as required.			
	<b>Horizontal type, multistage, centrifugal, split casing pump</b> of cast iron body & bronze impeller with stainless steel shaft, mechanical seal to ensure a <b>minimum pressure of 3.5 kg/sq.cm.</b> at highest and farthest outlet at specified flow of <b>1620 lpm at 56 m. head</b> conforming to IS 1520.			
	Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS:325.			

	M.S fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.			
	Suitable cement concrete foundation duly plastered with anti vibration pads.	1	Each	
<b>2.3</b>	Supplying, Installation, Testing and Commissioning of <b>Electric driven pressurization pump</b> suitable for automatic operation and consisting of following: complete in all respect as required.			
	<b>Horizontal type, single stage, centrifugal pump</b> of cast iron body and bronze impeller with stainless steel shaft, mechanical seal and flow of <b>180 lpm at 56 m.</b> head conforming to IS : 1520.			
	Suitable HP Squirrel cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.			
	M.S fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.			
	Suitable cement concrete foundation duly plastered with anti vibration pads.	1	Each	
<b>2.4</b>	Supplying and fixing air vessel made of 450 mm dia, 8 mm thick MS sheet,1200 mm. height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia Gun metal wheel valve, with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	1	Each	



2.5	Supply, installation, testing and commissioning of pressure guage 0-200 PSI ( 0 - 14 Kg ) range, 3/8" BSP bottom entry, 4" dial weather proof with stainless steel internals, siphon tube amd ball valve including fittings, etc. complete as required	6	Each	
2.6	<b>Main Fire Pump Panel</b>			
	Fabricating, supplying, Installation, testing and commissioning of electrical control panel of cubicle construction, floor mounted type, fabricated out of 2 mm thick CRCA sheet, compartmentalized with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, inter connection, having switchgears and accessories mounting and internal wiring, earth terminals, numbering etc. complete in all respects, suitable for operation on 415 V, 3 phase, 50 Hz AC supply with enclosure protection class IP 42 as required.			
	Common panel in Fire Pump House			
	<b>Incomer</b>			
	200 Amps TPN, MCCB, 35 KA with Microprocessor based release			
	Digital Voltmeter ( 0 - 500 volts ) with selector switch			
	Digital Ammeter ( 0 - 250 Amps ) with selector switch& CTs etc.			
	Set of 3 phase indicating Lamps LED type with protective fuse.			
	Set of Al. Bus bar of 250 Amps,			
	<b>Outgoing</b>			
	02 Nos. 200 Amp, TPN, 35 KA MCCB with thermal release			
	02 Nos. 200 Amp, TPN, 35 KA MCCB with thermal release			
	Main Fire& sprinkler Pump : 2 set per pump			

	01 nos., 63 Amps TPN, MCCB, 25 KA with thermal magnetic release suitable HP fully automatic star / delta starter with overload protection, current sensing type single phase prevent or complete with all accessories and internal wiring required for automatic operation, selector switch for local / remote, auto / manual / Off operation.			
	Jockey Pump			
	01 nos., 63 Amps TPN, MCCB, 25 KA with thermal magnetic release suitable HP fully automatic DOL starter with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local / remote, auto / manual / Off operation.			
	Diesel Engine Control			
	Control for Diesel Engine comprising :			
	Auto / manual Selector Switch & 3 attempt starting device, timers and relays as required, push buttons, start / stop in manual mode.			
	Indication lamp for High / Low Lube Oil pressure, High water Temperature and Engine ON indication.			
	battery Charger suitable for 12 V / 24 V DC with boost and trickle selector switch, 0 -15 V / 0 - 30 V DC volt meter, 0 - 20 A DC Ammeter.			
	All standard relays and accessories for automatic operation of diesel engine.			

	Designing, supply, installation, testing and commissioning of System Controller to control operation of Main Electric Pump, Diesel Pump, and Pressurization Pump in sequence as per specifications consisting of relays, timers, sensors, annunciation window for fault indication complete as per specifications. Unit read as Set instead of work	1	work	
<b>2.7</b>	Providing and fixing resilient rubber lined neoprene single arch vibration eliminators with unit control suitable for fire pump upto 45 <sup>0</sup> C. Temperature working pressure 20 Kg. per square centimeter .			
2.7.a	80 mm dia	1.00	Each	
2.7.b	100 mm dia	1.00	Each	
2.7.c	150 mm dia	4.00	Each	
<b>2.8</b>	Providing and fixing heavy duty PVC insulated, PVC armoured aluminum conductor cables 1100V grade including necessary support clamps and connection lugs complete in all respects.			
2.8.a	Power cable 3.5 core 70 sqm.	6.00	Meter	
2.8.b	Power cable 3.5 core 95 sqm.	12.00	Meter	
<b>2.9</b>	Providing and fixing copper earthing wire 2 Nos. 6mm dia from motor and MCC panel to be connected in an approved manner to the general earthing system	15.00	Meter	
<b>3.0</b>	<b>HAND APPLIANCES</b>			
<b>3.1</b>	Supply & Fixing ISI marked (IS:13849) Portable Fire Extinguisher, ABC type capacity 6 kg, finished externally with red enamel paint, complete in all respects including initial fill and wall suspension. <b>Capacity 6 kg</b>	14.00	Each	

3.2	Supply & Fixing ISI marked (IS:2878) Portable fire Extinguisher, Carbon-dioxide type flat base including valve, discharge hose of not less than 10 mm dia. min. 600 mm long & complete in all respects including initial fill with CO2 gas confirming to IS:307-1966 filled to a filling ratio of not more than 0.667 and wall suspension bracket. <b>Capacity 4.5 Kg</b>	14.00	Each	
3.3	Supply & Fixing ISI marked (IS:10204) Portable Fire Extinguisher, Trolley mounted Mech. Foam type capacity 09 ltrs with gun-metal cap and nozzle and complete respects in all respects including initial fill and wall suspension. <b>Capacity 9.0 ltrs</b>	2.00	Each	
3.4	Supply & Fixing of ISI marked (IS:2878) Fire Extinguisher, Trolley mounted, CO2 (gas pressure) type capacity 22.5 Kg. with gun-metal cap. And nozzle and complete in all respects including initial fill and wall suspension bracket. <b>Capacity 22.5 Kg</b>	1.00	Each	
4.0	<b>FIRE ALARM SYSTEM</b>			
4.1	Providing and fixing analog Smoke detectors	91.00	Each	
4.2	Providing and fixing fixed temp. / ROR analog type Heat detectors	1.00	Each	
4.3	Providing & Fixing of manual call box 16 gauge unsuitable enclosure with arrangements to raise the alarm when the glass is manually broken complete	10.00	Each	
4.4	Providing & Fixing of UL/EN/IS Standard electronic hooter 90 dB sound output complete as required.	10.00	Each	
4.5	Providing & fixing Response Indicators	21.00	Each	

<b>4.6</b>	Providing & Fixing of following zone UL/EN/IS standard fire alarm control panel fabricated from 16 SWG CRCA sheet to accommodate for zones as required I/C testing of each circuit separately for resetting complete with painting as required			
	4 Zone fire alarm panel	1.00	Each	

S.No.	Description	Qty	Unit	Rate (Rs.)	Amount (Rs.)
1	Design, Manufacture, supply, installation testing and commissioning of 1000 LPD Solar Hot Water System to obtain hot water at 70 degree average consisting of 8 nos collectors for 1000 LPD SHWS of size 2.5mx1m, insulated hot water 1no Drum of 1000 ltrs. one set of insulated, inter-connecting piping within the system, supporting stand and frame for the drum and collector panels manufactured as per IS.12933. System shall work on Thermosyphonic system				
	The detailed technical specification are as follows:				
1.1	<b>Type of system: Thermosyphonic</b>				
1.2	<b>Solar Collector:</b>				
	<b>a)Absorber Material:</b>				
	Copper tube-copper absorber(Cu-Cu), with sensitivity coating (99.80%) absorber area 2 sq. m absorber sheet thickness 32 SWG.				
	<b>b)Absorber Coating:</b>				
	Selective black Chromium NALSUN/Salchrome coating with absorptivity of 0.96+/- 0.02 and emmissivity of 0.12+/- 0.02.				
	<b>c)Riser:</b>				
	Copper tube of 12.5mm dia, thickness 0.56mm (24 SWG), 9 risers per collector, length of each risers 1.90 mts/riser, fin width 110 mm.				
	<b>d)Headers:</b>				
	Copper tubes of 25mm dia, thickness 0.71 mm (22 SWG), 2 headers per collectors, length of header 1.15 mts/header.				
	<b>e)Bonding between Fins &amp; Tubes:</b>				
	Continuous Ultrasonic welding (TIG).				
	<b>f)Bonding between Riser &amp; Header</b>				
	Full round brazing.				
	<b>g)Glazing:</b>				
	Toughened glass of 4mm thickness, absorptivity 92%.				
	<b>h)Bedding &amp; Gaskets:</b>				

	EPDM beeding to withstand ultra violate rays and water tightness without joint.				
	<b>i)Insulation for the collector:</b>				
	50 mm Resin bonded rockwool pads at the bottom and 25mm fibre wool pads at the sides having a density of 48 kg/cum & thermal conductivity of 0.029 w/deg.k.				
	<b>j) Collector Box ISI approved SEPL</b>				
	Size 2.12 sq m and dimensions 2122x1040x100mm				
	<b>k)Collector Box Material:</b>				
	Aluminium section, thickness of 1.7 mm with polyster powder coating and back sheet is aluminium with thickness of 0.90mm.				
	<b>l)Glass Retaining angle Back Sealing</b>				
	Aluminium Powder coated Extrusion GE Silicone sealant throughout all sides for moisture entry prevention.				
	<b>m)Hardware, screws flanges:</b>				
	Stainless steel, SS-304 grade brass flanges 63 mm dia				
1.3	<b>Storage Tank</b>				
	Inner tank of IS-304 grade SS drum which is TIG welded and having thickness as follows: 100-300--IS SWG (304 grade 1.2 mm) 400-750-16 SWG (304 grade 2 mm) 1500 and above-12 SWG(2.5 mm).The outer tank of aluminium sheet of 18 SWG & insulated with resin bonded rock wool pads and outer body with duco (automobile) shell white paint to get elegant look.				
	The tank will be insulated for conservation of heat nergy with 150 m glass wool of 48 kg/cum density cladded with 26guage aluminum sheet, however in the premium model cladding of stainless steel sheet is provided for the dual purpose of good looks and long life				
1.4	<b>Interconnecting Piping</b>				
	ISI 'B' class GI pipe insulated with 50mm thick rock wool of density 48 kg/cum and Aluminum cladding 26SWG				
1.5	<b>Stand Material:</b>				
	MS angles with synthetic finish				

1.6	This will include temperature gauges, pressure gauge at suitable locations, one strainer and water meter in the cold water feed line.				
	Design, supply, erection of M.S frame work/post columns, supporting elements for 1000LPD SWH using M.S angles/ channels/ flats/ tees etc to erect the SWH and its accessories, pipes, collectors at an height of 2 to 2.5 m from terrace level, including supporting foundation, welding, grouting etc as directed by EIC& as per manufacturer's specifications. The structure shall be built in welded, bolted, revitted and designed to withstand self weight, wind load etc and well anchored to the building. All the design shop drawing shall be got approved before erection. All the structural members shall be painted with two coats of synthetic enamel paint over a coat of zinc chromate primer. The system is to be installed on terrace of stair case head room.	1.00	Each		



S.No	Code No.	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
		<b>Note :</b>				
		- All pumps to be provided with mechanical seal, wearing ring and base frame.				
		- Performance curve should be got approved before placing the order.				
		= In case impeller need to be trimmed to suite discharge & head, it should be tested for actual RPM of motor supplied along with pump considering the slip In RPM at actual working conditions.				
<b>1</b>	<b>MR</b>	Providing & fixing Raw water Supply pumps (vertical type) pump single Phase 230 volts along with the following capacity.				
	<b>a</b>	Raw water supply Pump :				
	<b>b</b>	Capacity : 10000Ltrs/hr.				
	<b>c</b>	Head : 25 meter				
	<b>d</b>	HP : 5 HP or as required				
	<b>e</b>	Two Pumps with Electrical Panel				
		(one working & one Stand bey				
		Make : - <b>Wilol/ Grundfoss with Electrical .Panel</b>				
		Unit read as Set instead of work	1	work		

2	MR	Providing & fixing Domestic water pumps (Vertical type) pump single Phase 230 volts along with the following capacity.				
	a	Treated water supply Pump :				
	b	Capacity : 10000Ltrs/hr.				
	c	Head : 25 meter				
	d	HP : 5 HP or as required				
	e	Two Pumps with Electrical Panel				
		(one working & one Stand bey				
		Make : - <b>Wilo/Grundfoss with Ele.Panel</b>				
		Unit read as Set instead of work	1	work		
3	Mr	Providing, fixing, testing and commissioning of motorized butterfly valve of following dia for filling of over Head water tank complete white high and low level control switches to control the valve. The level controllers shall be installed in over head tanks. The level switch will close the velve when water level is high water tank level is low. The in whether proof casing etc. ( Make : Belimo /Audco / Advance/AIP ) system should be complete in all respects with accessories, 220 V AC/24V DC IP 67 electrical water level control unit, copper control wiring in whether proof casing etc. <b>(Make:AIP / Audco)</b>				

		a	50mm nominal bore	4	Each		
<b>4</b>	<b>MR</b>		Providing & fixing of pressure sand filter with multiport valve of the following specifications:-				
			(a) Diameter : 600 mm AS PER MFD (24"x72" )				
			(d) Depth of filter media : 900 - 1000mm				
			(e) Filtration capacity : 18 cu.m/hr				
			(f) Filter Media : Multigrade Sand.				
			(g) Material of Construction : F.R.P.				
			(i) Working Pressure : 3 . 5Kg/Sq.cm.				
			(j) Make : Wave Cyber/Pentair	1	Each		
			Note : All face piping, valves, (such as inlet, outlet, backwash, drain,air vent etc. and one no test cock and pressure gauge to be supplied by the contractor and water quality test certificate to be submitted on commissioning.				
<b>5</b>	<b>MR</b>		Providing & fixing flow adjustable type Electronic Type chlorine dozer of the following specification including the cost of first charge of chemicals.				
			(a) Capacity : 6 LPH				
			(b) Max. Injection Pressure : 1.5 Kg/Sq.cm.				
			(c) Tank Capacity : 100 Ltr.				
			(d) Make: Asia LMI / Prominent	1	Each		

6	MR	Providing & fixing water softening system with multiport valve of the following specifications					
		(a) Diameter : 600 mm AS PER MFD (24"X72")					
		(e) Filtration capacity : 18cu.m/hr					
		(f) Filter Media : resin tata-40					
		(g) Material of Construction : F.R.P.					
		(i) Working Pressure : 3.5 Kg/Sq.cm.with FRP or HDPE brine tank of 500 Ltrs capacity.					
		Test pressure 8 Kg/Sq. cm, Hardness: 400 PPM (approx)AND AS PER WATER TESTING REPORT					
		(j) Make : Wave Cyber/Pentair	1	Each			
7	MR	Providing and fixing fully submersible pump with Control panel ,water proof sealed Motor of C.I alloy body with bronge empeller cromium steel shaft suitable for 415/450 Three phase, 50 cycles A.C. supply with volts, water proof P.V.C. insulated double sheathend copper conductor flexible cable from motor to control pannel including all arrangement complete in all respects.					
		Capacity : 5 Litre / Second.					

		App. Head : 75 Meters			
		App. H.P : 7.5 H.P.			
		Make : KSB (Model No.UQD212/6)			
		Unit read as Set instead of work	1	Work	
<b>8</b>	<b>MR.</b>	Providing and laying cable of Finolex make ( 1x 3 x 2.5mm) for connection from motor to control pannel complete with all respects.			
		Unit read as Set instead of work	125	work	

<b>TUBE WELL PUMPS</b>			
<b>9</b>	<b>MR</b>	Supply of KSB make submersible pump set with 3/4 HP motor 7/10 stage pump suitable for delivery of water 5/8/12/16/20mm <sup>3</sup> /hrs. at 50/45/37/28/16 mts head respectively.	1   Nos.
<b>10</b>	<b>MR</b>	Submersible Cable 4 Sq. mm Finolex/Aerolex make	60   Nos.
<b>11</b>	<b>MR</b>	Panel board for submersible pump fitted with DOL starter ammeter, voltmeter, single phase preventer, MCB on/off switch pump button fully wired.	1   Nos.
<b>12</b>	<b>MR</b>	Lowering of submersible pump  Unit read as Job instead of Number	1   No.

Sr. No.	DESCRIPTION	Unit	QTY	RATE		AMOUNT	
				Rs.	Ps.	Rs.	Ps.
	<b>BED LIFT</b>						
1	Supplying, installing, testing and commissioning of 16 persons (1088 kg) bed elevator having contract speed of 0.5 MPS serving different floors in the lift shaft as per CPWD specifications for electrical works (Lifts & Escalators Part - III, 2003) and technical data sheet enclosed.						
	Location of lifts: New building						
	Speed - 0.5 MPS (Bed Lift)						
	Floors - 5 (B+G+3)						
	Stops and opening - 5						
	Controller : AC variable voltage and variable frequency.						
	Automatic rescue device complete with dry maintenance free batteries as required.						
	Operation : Simplex selective collective without attendant.						
	Power - 415 V, 3 phase, 50 HZ, 4-wires system						
	Type of doors						
	Car : Automatic power operated telescopic, Horizontal side opening horizontal sliding stainless steel scratch proof door in hairline finish.						
	Landing doors: Automatic Power operated telescopic, Horizontal side opening stainless steel doors in hairline finish.						
	A hand rail not less than 600 mm long at 900 mm above floor level to be fixed adjacent to control panel in the lift car.						

<p>Operation and maintenance of lift which include routine, preventive break down maintenance including repair/replacement of worn out items with minimum downtime and warranty &amp; guarantee of repaired/replaced items for defect liability period of one year as per maintenance schedule from the date of handing over of work.</p>	
<p>Voice announcement system in the car.</p>	<p>1   No.    </p>

E.E.(PR)-I Shah (N)

A.E.

J.E.



**Part C: - Reserve price of Existing old  
structure**

S. No.	Item	Quantity	Unit	Rate	Amount
1.	Reserve price of old existing structure to be deposited with EDMC for building under possession of Health Department only. (Portion of Maternity Home Chadiwala)	1	Job		

**Note: The sanitary and electrical fixtures will be property of EDMC and same will be deposited in Mpl. Store.**

E.E.(PR)-I Shah (N)

A.E.

J.E.