

04.09.2023



REGIONAL OFFICE GURUGRAM , 2<sup>ND</sup> FLOOR, AGGARWAL CORPORATE TOWER, 23,  
RAJENDRA PLACE, NEW DELHI , [ssd.rodelhincr@unionbankofindia.bank](mailto:ssd.rodelhincr@unionbankofindia.bank) ,  
[rh.delhincr@unionbankofindia.bank](mailto:rh.delhincr@unionbankofindia.bank)  
Tel: 011-25825287 , 9899510852, 9450441744

**PRE-QUALIFICATION CUM TENDER NOTICE FOR PROPOSED INTERIOR &  
FURNISHING WORKS AT # THE BANK'S REGIONAL OFFICE AT , UNIT NO.602,6TH  
FLOOR GLOBAL BUSINESS SQUARE,BUILDING NO 32, SECTOR-44, INSTITUTIONAL  
AREA GURUGRAM,122003**

Union Bank of India invites sealed tenders (prequalification cum technical bid and Price Bid separately) from the eligible contractors having office in Delhi or Gurugram or registered branch office in Delhi or Gurugram, **original for the proposed** BANK'S REGIONAL OFFICE AT , UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS SQUARE,BUILDIN NO 32, SECTOR-44, INSTITUTIONAL AREA GURUGRAM,122003. The estimated cost of work is Rs. 99,80,000/-. The detailed information regarding, eligibility norms and tender document shall be available during aforesaid period at the Bank's website [www.unionbankofindia.co.in](http://www.unionbankofindia.co.in) and government site [www.tenders.gov.in](http://www.tenders.gov.in) . The period of tender will be from 04.09.2023 (10.00 am) to 25.09.2023 (03.00 pm).

The Bank reserves the right to reject any or all applications without assigning any reasons whatsoever.

DY. GENERAL MANAGER

**Disclaimer**

This RFP is not agreement and is neither an offer nor invitation to the prospective applicants or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formation of their proposal pursuant to this RFP. The issue of this RFP does not imply that the bank is bound to select an applicant. Bank reserves all rights to reject any or all bid without assigning any reason.



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Tel: **011-25825287** , **9899510852**, **9450441744**

### Advertisement

#### Sub :- Notice for Appointment of Contractor /firm for furnishing of premises at RO Gurugram

Union Bank of India Regional Office Gurugram invites open tender in two bid system for appointment of contractors having office in Delhi or Gurugram or registered branch office in Delhi or Gurugram for Civil , interior, furnishing , electrical , HVAC LAN etc. work at REGIONAL OFFICE GURUGRAM PREMISES AT “UNIT NO. 602, 6<sup>TH</sup> FLOOR, GLOBAL BUSINESS SQUARE, BUILDING NO. 32, SECTOR 44, INSTITUTIONAL AREA, GURUGRAM - 122003. The complete details are available on bank’s website at [www.unionbankofindia.co.in](http://www.unionbankofindia.co.in) and government site [www.eprocure.gov.in](http://www.eprocure.gov.in) , also any corrigendum clarification shall be released only on bank site [www.unionbankofindia.co.in](http://www.unionbankofindia.co.in) and government site [www.eprocure.gov.in](http://www.eprocure.gov.in) , hence these sites may be visited regularly for seeking any updation in this regard. For more details please refer application form. The period of tender will be from to 2 (am 10.00) 04.09.2023.09.2023 (03.00 pm).

Bank reserves the right for rejecting any or all applications received & cancellation of the process without assigning any reasons whatsoever.

Dt :- 04.09.2023

Regional Head



क्षेत्रीय कार्यालय गुरुग्राम, दूसरी मंजिल, अग्रवाल कॉर्पोरेट टावर, 23, राजेंद्र प्लेस, नई दिल्ली  
 दूरभाष क्र. 011-25825287, 9899510852, 9450441744  
 ईमेल आईडी [ssd.rodelhincr@unionbankofindia.bank](mailto:ssd.rodelhincr@unionbankofindia.bank), [rh.delhincr@unionbankofindia.bank](mailto:rh.delhincr@unionbankofindia.bank)

### विज्ञापन

**विषय: - क्षेत्रीय कार्यालय, गुरुग्राम के परिसर की साज-सज्जा (फर्निशिंग) के लिए ठेकेदार/फर्म की नियुक्ति हेतु सूचना**

यूनियन बैंक ऑफ इंडिया, क्षेत्रीय कार्यालय-गुरुग्राम द्वारा क्षेत्रीय कार्यालय गुरुग्राम के परिसर "यूनिट नं. 602, 6<sup>वीं</sup> मंजिल, ग्लोबल बिजनेस स्क्वायर, बिल्डिंग नं. 32, सेक्टर 44, इंस्टीट्यूशनल एरिया, गुरुग्राम – 122003" के लिए सिविल, इंटीरियर, फर्निशिंग, इलेक्ट्रिकल, एचवीएसी लैन आदि कार्यों हेतु ठेकेदारों जिनके कार्यालय दिल्ली या गुरुग्राम या पंजीकृत कार्यालय दिल्ली या गुरुग्राम में स्थित है, की नियुक्ति के लिए दो बोली प्रणाली में खुली निविदा आमंत्रित की जाती है। इससे संबंधित पूर्ण विवरण बैंक की वेबसाइट [www.unionbankofindia.co.in](http://www.unionbankofindia.co.in) और सरकारी साइट [www.eprocure.gov.in](http://www.eprocure.gov.in) पर उपलब्ध है। इसके अलावा कोई भी शुद्धिपत्र / स्पष्टीकरण केवल बैंक साइट [www.unionbankofindia.co.in](http://www.unionbankofindia.co.in) और सरकारी साइट [www.eprocure.gov.in](http://www.eprocure.gov.in) पर ही जारी किया जाएगा। अतः इस संबंध में किसी भी नई जानकारी के लिए नियमित रूप से इन साइटों को देखा जाए। अधिक जानकारी के लिए कृपया आवेदन पत्र देखें।

निविदा की अवधि 04.09.2023 सुबह 10.00 बजे से 25.09.2023 को दोपहर 03.00 बजे तक होगी।

बैंक बिना कोई कारण बताए किसी भी या सभी प्राप्त आवेदनों को अस्वीकार करने और प्रक्रिया को रद्द करने का अधिकार सुरक्षित रखता है।

दिनांक : - 04.09.2023

क्षेत्रीय प्रमुख



**REGIONAL OFFICE GURUGRAM , 2<sup>ND</sup> FLOOR, AGGARWAL CORPORATE TOWER,  
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[rh.delhincr@unionbankofindia.bank](mailto:rh.delhincr@unionbankofindia.bank)

**VOLUME - I**

**PRE-QUALIFICATION CUM TENDER NOTICE FOR PROPOSED INTERIOR &  
FURNISHING WORKS AT**

**# THE BANK'S REGIONAL OFFICE AT , UNIT NO.602,6TH FLOOR GLOBAL  
BUSINESS SQUARE,BUILDIN NO 32, SECTOR-44, INSTITUTIONAL AREA  
GURUGRAM,122003**

**PREQUALIFICATION  
AND  
GENERAL TERMS AND CONDITIONS**

Name of the Contractor: \_\_\_\_\_

**OWNER:  
REGIONAL OFFICE GURUGRAM  
UNION BANK OF INDIA,  
Second Floor,  
Aggarwal Corporate Tower,  
Rajendra Place,  
New Delhi - 110008**

**ARCHITECT CONSULTANT:  
M/s. VASTUMANDAL  
F-328,3<sup>RD</sup> FLOOR, LADO SARAI,  
NEW DELHI - 110030  
# 011-41665455 ,9811136696**

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**NOTICE INVITING TENDER**

To

M/s \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dear Sir,

**SUB: PRE-QUALIFICATION CUM TENDER NOTICE FOR  
PROPOSED INTERIOR AND FURNISHING AT  
# BANK'S REGIONAL OFFICE AT , UNIT NO.602, 6TH FLOOR GLOBAL  
BUSINESS SQUARE,BUILDING NO 32, SECTOR-44,INSTITUTIONAL AREA  
GURUGRAM,122003**

Union Bank of India invites sealed tenders (prequalification cum technical bid and Price Bid separately) from the eligible contractors, **having registered office at Delhi/Gurugram** for the proposed **INTERIOR AND FURNISHING** work for Union Bank of India AT

**# BANK'S REGIONAL OFFICE AT , UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS SQUARE,BUILDING NO 32, SECTOR-44, INSTITUTIONAL AREA GURUGRAM,122003,** as per following details:-

**1) Name of the work**

Proposed INTERIOR AND FURNISHING works AT  
, UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS  
SQUARE, BUILDING NO 32, SECTOR-44,  
INSTITUTIONAL AREA GURUGRAM, 122003

**2) Estimated Cost of the Work** : Rs.99,80,000/-

**3) Earnest Money Deposit** : Rs 1,99,600/-  
Drawn in favor of Union Bank of India  
Payable at New Delhi

**4) Period of Completion** : 75 days

**5) Validity of Tender** : 120 days

**6) Date of Issue of Tender** : On 04.09.2023 at 10.00 am

**7) Last date of submission of Tender** : Till 25.09.2023 at 03.00 p.m.

**8) Date of Pre-bid Meeting** : On 12.09.2023 at 11.00 am at Regional Office Gurugram Rajendra Place New Delhi

**9) Date & Time of opening the Technical Bid** : On 25.09.2023 at 03.30 pm at Regional Office Gurugram Rajendra Place New Delhi

- 10) **Performance Security:-** Performance Security is to be furnished in the form of fixed deposit receipt of Union Bank of India (the deposit must be endorsed/marked in the name of Union Bank Of India Regional Office Gurugram) or bank Guarantee from commercial bank from the successful /appointed contractor @10% of the estimated cost i.e. 99,80,000\*10% i.e. ₹ 9,98,000.00
- 11) **Regarding Pre -Bid Meeting:** - Any addendum/corrigendum thus issued shall be part of the Tender Document, information related to Pre-bid conference and any such other matter shall also be **posted only on the Bank's website and Tender Site**. Therefore, applicants are requested to frequently visit the Bank's website regarding modifications / corrigendum issued. Pre-bid meeting as per above schedule shall be held at **UNION BANK OF INDIA, Regional Office, 2<sup>nd</sup> Floor, Aggarwal Corporate Tower , 23 Rajendra Place New Delhi -110008**
- 12) **Tender Fee Non Refundable:** The tender document can be obtained from the office of the **UNION BANK OF INDIA, Regional Office, 2<sup>nd</sup> Floor, Aggarwal Corporate Tower , 23 Rajendra Place New Delhi -110008** on payment of Rs. 2000/- (non-refundable) in favour of Union Bank of India payable at **New Delhi** and should be submitted in original, duly stamped, and sealed in the same office. The complete tender document can also be downloaded from during aforesaid period on bank's website at [www.unionbankofindia.co.in](http://www.unionbankofindia.co.in) and Government site [www.eprocure.gov.in](http://www.eprocure.gov.in)
- 13) **Exemption of Submission of EMD and Tender Fee :-** The firms registered under Micro & Small Enterprises are exempted from depositing the EMD and Tender Cost subject to submission of valid Micro and Small Enterprises(MSEs ) certificate defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or registration certificate issued by Central Purchase Organization or the concerned Ministry or Department ). Application unless otherwise exempted without tender document fee and EMD will summarily rejected.
- 14) The item rates under the contract include for full, final & entire completion of all works in all respects described in contract & as shown in drawings forming part of the contract. Contractor must quote item rates for all the items of work. Tenders will be opened in the presence of contracting agencies or their authorized representatives
- 15) The tenders shall be submitted in two envelopes. **The envelope No. 1** shall be marked as "**Pre-qualification cum Technical Bid - INTERIOR AND FURNISHING works AT , UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS SQUARE,BUILDING NO 32, SECTOR-44,INSTITUTIONAL AREA GURUGRAM,122003** " shall contain pre-qualification application and necessary documents / credentials, Vol-I, tender document and EMD.
- 16) **The envelope No. 2** shall be marked as "**Price Bid - INTERIOR AND FURNISHING works AT , UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS SQUARE,BUILDING NO 32, SECTOR-44,INSTITUTIONAL AREA GURUGRAM,122003**" and shall contain BOQ.

- 17) **Envelope No. 1.** Will be opened first on the due date of opening. **Envelope No. 2** of the contractors will be opened at later date who have complied with and successful in prequalification cum technical Bid.

Tenders are to be submitted in one sealed envelope cover enclosing therein the Envelope No. 1 and Envelope No.2 duly super scribed “**INTERIOR AND FURNISHING works AT , UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS SQUARE,BUILDING NO 32, SECTOR-44,INSTITUTIONAL AREA GURUGRAM,122003**” and put in the Tender Box kept on at Regional Office , Delhi,2<sup>nd</sup> Floor, Aggarwal Corporate Tower , 23 Rajendra Place, New Delhi - 110008

- 18) The tenderer must use only the tender forms issued for the purpose to fill in the rates. Intimation of tender quoted by letter, telegrams / telex will not be acceptable.
- 19) Tenderers are advised not to make any alteration/modification in the tender documents, Item of work or in any respect whatsoever. Violation of this requirement will make the tender liable for rejection.
- 20) In case of postal delivery, the tenderer has to ensure that tender is reached before the due date and time. The bank will not be responsible for damage in the transit and delay of receipt of tender, if any or sent by a special messenger. Tender received late shall be rejected.
- 21) Every page of the tender documents should be signed by the person or persons submitting the tender in token of his/their having acquainted himself/themselves with the General and Special Conditions of Contract, Specifications etc., as laid down. Any tender with any of the documents not so signed will be subjected to rejection.
- 22) No consideration will be given to a tender received after the time stipulated above and no extension will be allowed for submission of the tender.
- 23) The Union Bank of India shall not be bound to accept the lowest tender and reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever.
- 24) This notice inviting tenders, the conditions of tender and the duly completed form of tender etc., will form part of the Agreement to be executed by the successful tenderer with the bank.
- 25) Email Id & Contact Numbers to be filled properly for further communication in the matter.

**For UNION BANK OF INDIA**

**DY. GENERAL MANAGER**



**INSTRUCTION WITH REGARD TO SUBMISSION OF TENDER**

- 1) Rates should be quoted both in figures and words in columns specified. All erasures and alterations made while initials of the tenderer must attest filling the tender. Overwriting of figures is not permitted. Failure to comply with either of these conditions will render the tender invalid and it will be the option of Union Bank of India to accept or reject the tender. No request of any change in rate or conditions after opening of the tender will be entertained.
- 2) In the case of figures, the word `Rs.' should be written before the figures of rupees and the word `P' written after the decimal figures e.g. Rs. 3.25 P. In the case of words, the word Rupee should similarly precede and the words "Paise only" should be written at the end, closely following each the percentage rate. The word "only" should not be written in the next line unless the rate quoted is in whole Rupees closely followed by the word "only": The amount should invariably be upto two decimal places.
- 3) The different Schedules should be filled as follows:
  - (a) The "Rate" Column wherever applicable to be legibly filled in ink in both figures and words.
  - (b) The "Amount" Column also to be legibly filled in ink in both figures and words.
  - (c) All corrections to be initialed.
  - (d) No over writing is allowed.
  - (e) The figure of percentage of rate shall be legibly filled in ink in both figure and words.
- 4) Errors in the bill of quantities shall be dealt with in the following manner.
  - a. In the event of any discrepancy between the rates quoted in words and the rates in figures the former shall prevail.
  - b. In the event of an error occurring in the amount column of the bills of quantities as a result of the wrong extension of the unit rate and the quantity, the unit rate shall be regarded, as firm and extension shall be amended on the basis of the rates.
  - c. All the errors in totaling in the amount column and in carrying forward the totals shall be corrected.
- 5) The tender shall be signed and dated at all places provided therein. Also all pages, drawings and corrections / alterations shall be initialed. The tender submitted on behalf of a firm shall be signed by all the partners of the firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed contract. Otherwise the tender may be rejected by Union Bank of India.
- 6) The time allowed for completion of works is **75 days** from the date of commencement of the work is reckoned from the tenth day from the date of Letter of Intent. Time shall be considered the essence of contract.

- 7) It shall be the responsibility of the contractor to arrange for water and electricity required for completing construction. If water is available with the bank, the same will be supplied to the contractor by recovering 1% of the value of work done. However, contractor will have to make arrangement of pipeline for distributing water. Contractor to make own arrangement of electricity and pay tariff to the electricity board. In case the bank is supplying electricity, the contractor will have to install separate energy meter and pay the charges as per its consumption.
- 8) Every tender shall be accompanied by earnest money of Rs.1,99,600/- (Rupees One Lac Ninety Nine Thousand Six Hundred only) by way of Demand Draft/Pay Order only favoring UNION BANK OF INDIA, payable at New Delhi . Tender submitted without earnest money shall be summarily rejected.
- 9) The Earnest Money will be retained in the case of the successful tenderer as part of the security for due fulfillment of the Contract. No interest shall be paid on this deposit. Failure to enter into the Contract agreement within the stipulated time of 20 days from the date of acceptance of work order shall entail the forfeiture of the Earnest money Deposit. The Earnest money of unsuccessful tenderers will be released after issue of work order, without any interest.
- 10) The tenderer shall submit his tender after carefully examining the whole of the tender document and the terms and conditions of contract, the drawings and specifications, the schedule of quantities etc., and also after examining the site and conditions prevailing in and around site.
- 11) The Bank does not bind himself to accept the lowest or any tender and reserve to themselves the right of accepting the whole or any part of the tender and tenderer is bound to perform the same at the rates quoted. The Bank will not be bound to accept the lowest tender and reserves the right to accept or reject any or all the tender without assigning any reasons whatsoever. The work may also be divided among the contracting agencies depending on the exigencies of the bank.
- 12) Tenders shall remain valid for a period of 120 days from the date of opening of the tender which period may be extended by mutual agreement and the tenderer shall not cancel or withdraw the tender during the initial validity period of 120 days.
- 13) The successful tenderer shall be bound to implement the Contract and mobilize and sign specified agreements within 21 days from the date of acceptance of work order.
- 14) GST as applicable will be paid extra over and above quoted rates. Deductions in respect of sales tax or turnover levied as per government notification and/or guidelines shall be made from the Contractor's interim and final bills, and deposited with the relevant authority by the Bank, on his behalf. Any shortfall in deposit thereof shall be made up by the contractor, before submitting his final bill. Due to change in taxes structure by orders from Central Govt. / State Govt. after opening of tenders shall be reimbursed to the contractor as per actual and upon verifying the proof of having made the payment.

- 15) This contract shall be an item rate contract. The Contractor shall be paid for actual quantity of work done, as measured at site including any deviation plus or minus. The rate of any non-schedule items of work shall be decided as mentioned in the conditions of contract.
- 16) The tender drawings exhibited/enclosed are preliminary drawings intended for the guidance of the Contractor only. They may be subject to revision and alteration without vitiating any of the terms of the contract and the Contractor shall be bound to execute the works as shown on the final drawings without claiming any extra payment.
- 17) No correspondence will be entertained in respect of this tender other than any clarifications strictly pertaining to this tender.
- 18) The tender price quoted by a tenderer shall be kept strictly confidential and shall not be divulged to any other party even approximately before the time limit for delivery of tender. The only exception be for obtaining an insurance quotation, you may give your insurance company or agent any essential information they ask for, so long as it is done in strict confidence. No information about other's tender price should be obtained and no arrangement with any one else should be made whether or not he submit the tender.
- 19) For electrical, sanitary, water supply and drainage works, tenderers must possess respective valid licenses from the competent authority of the area where the site is located.
- 20) Contractor should sign at the end of every page prior to submitting the tender.
- 21) Conditional tenders will be summarily rejected.
- 22) **COMPLETION PERIOD OF THE PROJECT WILL BE 75 DAYS.**  
Progress chart linked up with completion period to be counted from 10<sup>th</sup> day of acceptance of work order.
- 23) *The contractor will obtain all statutory approvals vis-à-vis scope of work from; the Electricity Supply Agency, Central Electricity Authority (CEA), Electrical Inspector Office Gurugram etc. The liasoning expenses with the concerned agencies will be borne by the contractor however the statutory expenses for obtaining the necessary permission will be borne by the Bank.*

For UNION BANK OF INDIA

DY. GENERAL MANAGER



**REGIONAL OFFICE GURUGRAM , 2<sup>ND</sup> FLOOR, AGGARWAL CORPORATE TOWER,  
23, RAJENDRA PLACE, NEW DELHI , 011-25825287 , 9899510852 ,9450441744  
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### **PRE-QUALIFICATION OF CONTRACTORS**

**General information for the contractors for Proposed INTERIOR AND FURNISHING works AT , UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS SQUARE, BUILDING NO 32, SECTOR-44, INSTITUTIONAL AREA GURUGRAM, 122003.**

1. Intending contractors are requested to furnish details about their firm, technical experience, competence and evidence of their financial standing as per enclosed Proforma for considering their names for empanelment.
2. Selection of contractors will be based on the ability and competence required for good quality jobs to be performed by them.
3. If the space provided in the Proforma is insufficient for giving full details, the same may be given on a separate sheet of paper.
4. Information furnished to Bank will be kept as strictly confidential.
5. Decision of the Union Bank of India regarding selection of contractors for empanelment will be final and binding and no further correspondence will be entertained. Only the pre-qualified contractors will be informed about opening of tender/price bid date.
6. Intending contractors are requested to read carefully before filling the particulars in the Proforma.
7. Incomplete applications will not be considered.
8. Information / details furnished by selected party, if found to be false at any time in future or any information affecting empanelment is willingly / unwillingly withheld, if come to the notice of the Bank at any point of time, the party's empanelment can be cancelled immediately.
9. Where copies are required to be furnished, these should be certified copies.
10. Application form is not transferable.

**BIO - DATA OF CONTRACTING AGENCY**

1. Name of the firm :
- Address :
- Telephone No. :
  - Office :
  - Residence :
  - Mobile :
  - Fax :
  - E-Mail :
- 2.a) Weather proprietary / partnership / :  
Pvt. Ltd. / Public Ltd.,
- b) Name of the Proprietor, :  
Partners, Directors  
I)  
II)  
III)
- c) Year of establishment :
3. Registration with Registrar :  
of Companies (No. & Date)  
(For Corporation only)
4. Registration with Tax Authorities :
  - i) Income-tax No. :
  - ii) GST no. :
  - iii) EPF No. :
  - iv) ESI No. :
 (Furnish copies of registration)
5. Names of the Bankers with address :  
& certificate showing financial  
capacity & solvency.  
I)  
II)
6. Enclose solvency certificate of the :  
Amount (**Rs.29.94 lacs** or more).
7. Furnish copies of audited balance- :  
Sheet and Profit & Loss A/C. for  
the last 3 years.
8. Registration with Govt. / Public

## Sector / Banks

Name of the organization	Year since empanelled

9. Give details if at present involved in:  
Litigation in similar type of contracts

Sr. No.	Name of Project	Name of Employer	Nature of work	Work order dated	Date of completion of work	Value Rs.

10. Details of civil suit, if any, that arose during execution of contract in the past 10 years. :

11. Specify maximum value of single value project executed during the last three years. :

12. Name & relation, if any, with the staff member of Union Bank of India. :

13. Details of work executed during the last 7 years (Please mention the qualifying works)

Type of work	Work executed for (name of the Institution / Body)	Nature of work (in brief)	Location	Value Rs.	Duration of work with dt Commence completion		If work left incomplete or terminated (give reasons)

Note: Copies of work orders along with Xerox copies of relevant TDS certificate, satisfactory completion certificate obtained from the client shall be enclosed.

14. Details of work on hand (photo copies of performance certificate, work orders issued by valued clients, preferably Banks, Govt., Semi-Govt. Bodies should be attached).

Type of work	Work executed for (name of the Institution / Body)	Nature of work (in brief)	Location	Value Rs.	Duration of work, stipulated time	Present stage of work

15. DETAILS OF PRE-QUALIFYING WORK SATISFYING THE ADVERTISEMENT CRITERIA:  
(Attach separate sheet for more than one work).

1	Name of Client with address, name of contact persons and telephone numbers	
2	Name & Location of the site	
3	Description of Works completed	
4	Type of Project	
5	Cost of Work	
6	Duration of Work	Date of Commencement: Date of Completion:
7	Delay from original schedule	
8	Whether any penalty imposed / Civil Suit / Arbitration	

10	Enclose photographs of the work	
----	---------------------------------	--

**16. LIST OF NAME/S OF PROPRIETOR / PARTNERS & EMPLOYEES**

Name	Qualifications	Experience	Particulars of work done	Employed in your firm since	Value of work done

**17. Turnover in last 5 years:**

Sr. No.	Year	Turnover (Rs.in lacs)	Income-tax paid	Work Contract Tax paid

**18. List of equipments / machinery owned:**

Sr. No.	Name of equipment	Year of manufacture	Nos. available

**19. Valid EA Grade License:**

**20. PRE-QUALIFICATION CRITERIA:**

**Estimated cost of the work is Rs. 99,80,000/-.**

Sr. No.	Criteria	Weightage	Self rating marks
1	Contractors having annual average turnover for the last three years equal to or more than 30% estimated cost i.e <b>Rs. 29.94 lacs</b> or more	20	
2	Experience of having successfully completed similar works during the last 7 years. <ul style="list-style-type: none"> <li>• <b><u>3 similar works completed, costing not less than 40% (i.e Rs. 39,90,000/- each) of the estimated cost each OR</u></b></li> <li>• <b><u>2 similar works completed, costing</u></b></li> </ul>	60	



	<p><u>not less than 50% i.e Rs. 49,90,000/- each) of the estimated cost each OR</u></p> <ul style="list-style-type: none"> <li>• <u>1 similar work completed, costing not less than 80% (i.e Rs. 79,84,000/-) of the estimated cost.</u></li> </ul>		
3	Should have submitted solvency certificate of minimum Rs. <b>29.94</b> lacs or more. (Certificate shall not be more than 6 months old)	10	
4	Should have made profits at least for two years during last three years.	10	

Similar works means works involving interior and Furnishing, HVAC, Electrical, Plumbings works for Govt./public sector undertakings.

NOTE: Criteria mentioned above is just minimum requirement. The Bank at its discretion may upgrade the criteria. No complaint on this account will be entertained. Contractors scoring 80 marks & above will only be considered for pre-qualification. Contractors themselves have to fill in self-rating marks column in the above table.

## 20. FORMAT OF CONFIDENTIAL REPORT

*(To be submitted by the Client of applicant on their letter head in sealed envelop to the Bank)*

To:

*The Dy. General Manager*

*Union Bank of India,*

**REGIONAL OFFICE DELHI - 2ND FLOOR, AGGARWAL CORPORATE TOWER, 23, RAJENDRA PLACE, NEW DELHI,**

Confidential Report on M/s. \_\_\_\_\_

*This is to certify that M/s. \_\_\_\_\_, having Office at \_\_\_\_\_ have completed the work of \_\_\_\_\_.* **Confidential**

**Report for our project executed is as under:**

1.	<b>DETAILS OF PROJECT EXECUTED BY THE FIRM</b>	
2.	<b>DATE OF COMMENCEMENT OF</b>	

	<b>PROJECT</b>	
3.	<b>DATE OF COMPLETION OF PROJECT</b>	
4.	<b>TOTAL VALUE OF PROJECT EXECUTED</b>	
5.	<b>QUALITY OF SERVICE RENDERED</b>	
6.	<b>COMPETENCE TO HANDLE WORKS</b>	
7.	<b>INTEGRITY AND RELIABILITY OF THE FIRM</b>	
8.	<b>DEALING IN EXECUTION OF WORK</b>	
9.	<b>WHETHER TIME SCHEDULE IS ADHERED TO</b>	
10.	<b>WHETHER ANY PENALTY IMPOSED FOR THE DELAY</b>	
11.	<b>GENERAL ATTITUDE OF THE FIRM</b>	
12.	ANY OTHER INFORMATION WHICH YOU CONSIDER WILL HELP US IN TAKING OUR DECISION	

PLACE:

SIGNATURE : \_\_\_\_\_

NAME :

DATE:

DESIGNATION :

OFFICE SEAL

**21. LIST OF ENCLOSURES:**

ANNEXURE NO.	PARTICULARS	TICK IF ENCLOSED
I	Certificate of registration of Company / partnership deed.	
IIA, IIB, IIC	Certificates of registration with Income Tax, Service Tax, EPF authorities.	
III	Certificate of membership from the Council of Consultants.	
IVA, IVB, IVC	Audited Balance Sheet & Profit & Loss A/c. Statement for <b>2019-20 to 2021-22.</b>	
V	Certificates of Registration with Govt. / Public Sector / Banks.	
VI	Copies of work orders along with Xerox copies of relevant TDS certificate, satisfactory completion certificate mentioning value of work.	
VII	Copies of performance certificate, work orders issued by valued clients, preferably Banks, Govt., Semi-Govt. Bodies.	
VIII	Copies of income-tax returns / assessment orders for each year from <b>2017-18 to 2021-22.</b>	
IX	Sealed envelopes containing Confidential reports from clients in the above format.	

Note: In absence of any of the above enclosures, your application is likely to be rejected.

Place :

SIGNATURE

NAME & DESIGNATION

Date :

SEAL OF ORGANISATION

**D E C L A R A T I O N**

1. I / We have read the instructions appended to the Proforma and I / We understand that if any false information is detected at a later date, any future contract made between ourselves and Union Bank of India, on the basis of the information given by me / us can be treated as invalid by the Bank and I / We will be solely responsible for the consequences.
2. I / We agree that the decision of Union Bank of India in selection of contractors will be final and binding to me / us.
3. All the information furnished by me hereunder is correct to the best of my knowledge and belief.
4. I / We agree that I / we have no objection if enquiries are made about the work listed by me / us in the accompanying sheets.
5. I / We agree that I / We have not applied in the name of sister concern for the subject empanelment process.

Place :  
Date :

SIGNATURE

NAME & DESIGNATION

SEAL OF ORGANISATION

**TENDER FORM****To,**

\_\_\_\_\_,  
 Union Bank of India,  
 \_\_\_\_\_,  
 \_\_\_\_\_,  
 \_\_\_\_\_.

**PRE-QUALIFICATION CUM TENDER NOTICE FOR  
 PROPOSED INTERIOR AND FURNISHING works AT , UNIT NO.602, 6TH FLOOR  
 GLOBAL BUSINESS SQUARE, BUILDING NO 32, SECTOR-44, INSTITUTIONAL AREA  
 GURUGRAM, 122003**

Sir,

1. We have read and examined the following documents as received by us:
  - a) Notice Inviting Tender
  - b) Instructions to Tenderers
  - c) Conditions of Contract.
  - d) Supplementary Conditions.
  - e) Specifications
  - f) Drawings
  - g) Schedule of Quantities.
  - h) Addition condition of contract
1. We are well aware and familiar with CPWD Specification, BIS publication and National Building code which shall apply to this contract to supplement any missing details in this contract in order of preference.
 

Further to the above, we have visited and examined the site of the proposed works and have acquired the requisite information relating thereto as affecting the tender invited by Bank.
2. We agree that any other terms or conditions of contract or any general reservation which may be printed on any correspondence emanating from us in connection with this tender or with any contract resulting from this tender shall not be applicable to this tender or to the contract.
3. We have obeyed the rules about confidentiality of tenders and will continue to do so as long as they apply.
4. We are enclosing along with our tender an earnest money of Rs.1,99,600/- (Rupees One Lac Ninety Nine Thousand Six Hundred only) favoring Union Bank of India, payable at New Delhi (Pay Order No.----- dated ----- drawn on -----). We hereby agree that this sum shall be forfeited by Union Bank of India in the event of our tender being accepted and if we fail to execute the contract when called upon to do so.

5. Subject to and in accordance with paragraphs 3 & 4 above and the terms and conditions contained or referred to in the documents listed in paragraph 1, we agree and offer to execute all the Works referred to in the said documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered to be valued as per the conditions of contract.
6. We undertake to complete and deliver the whole of the works within a period i.e. **75 DAYS** as specified in the contract and further confirm that the time allowed for completion is adequate. Time allowed for completion of entire job or part job assigned shall be reckoned from the tenth day of the date of acceptance of work order. We shall be under the obligation to pay the sum as stated in the contract for every day that the works shall remain incomplete, damages as compensation subject to the conditions of contract relating to extension of time.
7. We hereby agree that unless & until a formal agreement is prepared & executed in accordance with the Articles of agreement, this tender together with your acceptance thereof, shall constitute a binding contract between us.
8. We agree to pay initial security deposit of 2% (including Earnest Money) of the contract amount by way of DD/PO in favour of UNION BANK OF INDIA, payable at New Delhi. This amount shall be released after virtual completion of work. We further agree for a deduction of 8% from the running bill as retention money till accumulating total security deposit.
9. Validity of the tender is 120 days from the date of opening of tender or it may be beyond 120 days if mutually accepted.
10. The bank is at liberty to accept or reject any tender, without assigning any reasons whatsoever.
11. The work may be split up in the first instance as per exigencies of the bank. But it may be split up in more parts or parts combined if so desired by the Bank without assigning any reasons whatsoever. We will not have any claim either for loss of profit or revision in rates.
12. Adherence to the pert chart / Bar chart will be ensured by us as the project is to be executed in a very strict time frame.
13. We are aware that the quantities of work indicated in the bill of quantities are approximate, may vary to any extent, even it may be omitted, we will not have any claim of any kind against the bank.

Signed in the capacity of duly authorized  
to sign tenders for and on behalf of

Address .....

Telephone No.....

.....

Telex No.

.....

Fax No.

Date :

E mail id :-

**UNDERTAKING**

This is to confirm that I/we M/s ..... (give full address) have not been blacklisted/left any work abandoned in any of the government department / office and public sector undertaking enterprise in India and central Vigilance commission, in last five years before release of advertisement. If the above information found false at any stage after the placement of Purchase/work Order, **Union Bank of India** will have full right to cancel the Purchase/work Order and forfeit the Performance Guarantee. All the direct and indirect cost related to the cancellation of the order will be borne by us besides any legal action by Union Bank of India, which may be deemed fit at that point of time.

Authorized Signatory Signature with Seal

Name

Address

Contact Details

**Bid Securing Declaration form**

Date:

Tender No.

To (insert complete name and address of the purchaser)

I/We, the undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that /We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or(ii) fall or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/we understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (Insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing he Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on ----- day of -----(insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)



**SUPPLEMENTARY CONDITION**

**INDEMNITY BOND**

On the acceptance of his tender, the contractor will be required to execute an Indemnity Bond with-in 10 days of issue of work order in favor of the bank against third party claims, civil or criminal complaints, site mishaps and other accidents or disputes, against any damages, loss or expenses due to or resulting from any negligence or breach of duty on the part of the contractor, his subcontractors or his employees and agents etc., as per the appropriate Indemnity Bond attached.

It will also be covered by labour laws of the Govt. of INDIA and New Delhi.

Any other conditions suggested by the Bank may be added subsequently.

Authorized Signatory Seal Signature

**INDEMNITY BOND**

(On Non-Judicial Stamp Paper of Rs. 100/-)

KNOW all men by these presents that I/We \_\_\_\_\_ do hereby execute Indemnity Bond in favour of the Union Bank of India on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

WHEREAS Union Bank of India, (address of the office) \_\_\_\_\_, have appointed \_\_\_\_\_ as the Contractors for their Proposed Union Bank of India Project at \_\_\_\_\_.

THIS DEED WITNESS AS FOLLOWS:

I/We \_\_\_\_\_ hereby do Indemnify and save harmless Union Bank of India, \_\_\_\_\_ against

1. Any third party claims, civil or criminal complaints/liabilities, site mishaps and other accidents or disputes and/or damages occurring or arising out of any mishaps at the site due to faulty work, negligence, faulty construction and/or for violating any law, rules and regulations in force, for the time being while executing/executed works by me/us.

2. Any damages, loss or expenses due to or resulting from any negligence or breach of duty on the part of me/us or my sub contractor's if any, servants or agents.

3. Any claim by an employee of mine/ours or of sub contractors if any, under the Workmen's Compensation Act and Owners Liability Act, 1939 or any other law, rules and regulations in force for the time being and any Acts replacing and/or amending the same or any of the same as may be in force at the time and under any law in respect of injuries to persons or property arising out of and in the course of the execution of the contract work and/or arising out of and in the course of employment of any workman/employee.

Any act or omission of mine/ours of sub-contractor's if any, our/their servants or agents which may involve any loss, damage, liability, civil or criminal action.

IN WITNESS WHEREOF THE \_\_\_\_\_ has set his/their hand on this day of \_\_\_\_\_ 20\_\_.

SIGNED AND DELIVERED BY THE

NAME AND ADDRESS

AFORESAID \_\_\_\_\_ (Contractor)

IN THE PRESENCE OF WITNESSES:

1.

2.

## ARTICLES OF AGREEMENT

**ARTICLES OF AGREEMENT** made at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and Five.

### **BETWEEN**

**UNION BANK OF INDIA**, a body corporate constituted under the Banking Companies (Transfer of Undertakings) Act, 1970 and having its Regional Office at - Second Floor, Aggarwal Corporate Tower ,Rajendra Place New Delhi -110008, hereinafter called “the Bank” (which expression shall, unless it be repugnant to the context or meaning thereof, include its successors and assigns) of the **ONE PART**

**AND MESSRS** \_\_\_\_\_, having its registered office at \_\_\_\_\_, hereinafter called the “Contractor” (which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) of the **OTHER PART**.

### WHEREAS

- i. The Bank is desirous of \_\_\_\_\_ (Works) on its \_\_\_\_\_ at \_\_\_\_\_.
- ii. The Bank has already appointed and retained **M/s VASTU MANDAL** , having its Office at **F-328, 3<sup>rd</sup> FLOOR LADO SARAI ,NEW DELHI, -110030** and Registered Office at **SAME AS ABOVE** as Architect / Consultant for the Works or the Project.
- iii. The Bank has caused the drawings and bills of quantities showing and describing the Works to be done to be prepared by or under the direction of the Consultants / Architect;
- iv. The Bank had invited tenders for **PRE-QUALIFICATION CUM TENDER NOTICE FOR PROPOSED INTERIOR AND FURNISHING works AT , UNIT NO. 602, 6TH FLOOR GLOBAL BUSINESS SQUARE, BUILDING NO 32, SECTOR-44, INSTITUTIONAL AREA GURUGRAM, 122003** in accordance with the general conditions of contract, special conditions of contract, technical specifications, bills of quantities and working drawings, as prepared by the Interior Consultants / Architect and furnished to the Contractor.
- v. Having examined the general conditions of contract, special conditions of contract, technical specifications, bills of quantities and working drawings as prepared by the Consultants / Architect, the Contractor offered to execute, complete and maintain the whole of the Works relating to the Project in conformity with the said general conditions of contract, special conditions of contract, technical specifications, bills of quantities and working drawings and in accordance with instructions issued by the Consultants / Architect and the Contractor submitted its tender for the contract sum of Rs. \_\_\_\_\_ towards the said work.

- vi. The tender submitted by the Contractor was, after negotiations, modified/alterd upon the Contractor agreeing to revise the rates of certain items and further offering a rebate for execution and completion of the Project thereby reducing the tender amount to Rs. \_\_\_\_\_ as confirmed by its letters dated \_\_\_\_\_.
- vii. Towards the implementation of the Project, the Contractor has supplied the Bank with a fully priced copy of the said bills of quantities (which copy is hereinafter referred to as “the Contract Bills”) and the drawings numbered as mentioned in the Annexure 11 of the Tender document inclusive (hereinafter referred to as “the Contract Drawings”) and the Contract Bills and the contract Drawings have been signed by or on behalf of the parties hereto:
- viii. The Contractor has already agreed with the Bank to implement and execute the Project in full on the basis of the contract documents as hereinafter defined on the terms and conditions therein contained;
- ix. The parties are now executing this Agreement setting out the basic terms of the agreement between them for smooth implementation and execution of the Project without any unnecessary difference or dispute.

**NOW IT IS HEREBY AGREED** as follows:

1. The Contract Document is comprising of
  - i. Tender document including technical bid (Vol.-I) and pre-bid (Vol.-II).
  - ii. Notice Inviting Tender issued vide letter \_\_\_\_\_
  - iii. Subsequent letters issued by the Bank vide \_\_\_\_\_
  - iv. Clarifications submitted by the contractor vide letter dt. \_\_\_\_\_.
  - v. Minutes of Meeting held on \_\_\_\_\_
  - vi. Rebate / Discount offered by the contractor vide letter \_\_\_\_\_
  - vii. Work Order issued by the Bank vide letter \_\_\_\_\_
  - viii. Acceptance letter \_\_\_\_\_ from the contractor
  - ix. Drawings numbering as mentioned in the Annexure 11 of the Tender document enclosed along with the tender document.
- 1.a Unless the context otherwise requires the contract documents above mentioned shall be harmoniously construed and in the chronological order.
- 1.b Unless otherwise expressly provided under these presents, contract documents (iii) to (ix) above shall be construed as modifying only those general and special terms and conditions in tender document in so far and to the extent referable to the clauses in the said tender document.
- 1.c Unless otherwise stated expressly hereunder, all the general and special terms and conditions shall apply and binding on the contractor.

2. The Contract Document is complimentary. What is called for in any one shall be as binding as called for by all. The aforesaid shall form integral part of contract and in the event of any inconsistency between any provisions herein the provisions of the Contract Documents shall prevail. When any of the General and Special Conditions are at variance, the condition stipulated in the Special Conditions of Contract shall supercede relevant provisions in General Conditions. For all matters not specifically provided for herein the provisions of General and Special Conditions in the Tender Documents shall apply and the rights and liabilities of the parties shall be decided accordingly. The decision of the Bank / Architect in this regard shall be final and binding.

3. All time limits stated in the Contract Document are of the essence of the contract where the work has to be completed within **75 days** failing which liquidated damages will be recovered @ 0.5% of contract amount for per week of delay subject to maximum recovery of 7.5% of the contract amount.

4. For the consideration hereinafter mentioned, the Contractor shall carry out and complete the Works in conformity with the contract documents and in accordance with the instructions issued by the consultant from time to time including all modifications extra and additional works and obligations to be carried out either on the Site or at any factory or work shop or any other place for subsequent incorporation as required for the due performance of the contract.

5. The general character and the scope of the Works is illustrated and defined by the specifications and the bills of quantities herewith attached and by the signed drawings. The scope includes furnishing all materials, labour, tools, equipment and management necessary for and incidental to the construction and completion of the Works. If the Contractor shall find any discrepancy in or divergence between the contract drawings and/or the contract bills he shall immediately give to the Consultant a written notice specifying the discrepancy or divergence and the Consultant shall issue instructions in regard thereto which shall be complied with by the Contractor.

**6. INTENT**

The intention of arrangement is to secure the performance of the Contractor's obligations to the satisfaction of the Bank / Architect / Consultant. All labour, material, equipment, constructional plant and transportation necessary for the proper execution of the Project is to be provided by the Contractor and should only be of the approved manufacturer/agencies respective kinds as described in the Contract Documents which is to be subjected from time to time to such tests as the Engineer/ Consultant's representative may direct. In case the required material/services of approved manufacturers/agencies are not available or are not upto the mark the Contractor shall procure material/ services from such other manufacturer/agencies as may be approved by the Consultant / Bank and the Contractor shall submit rate analysis for such material.

**7. EXTENT**

The Contractor shall carry out and complete the Works in every respect in accordance with this contract and with the directions of and to the reasonable satisfaction of the Consultant. The Consultant may in their

absolute discretion and from time to time issue further drawings, details and/or written instructions and written explanations whole of which are collectively referred to as Consultants' instructions. All such drawings and instructions shall be consistent with the Contract Document true developments thereof as reasonably inferable therefrom.

## **8. TYPE OF CONTRACT**

The Contract is an item rate contract. The Contractor shall be paid for the actual quantity of Work done, as measured at Site, at the rates quoted by him in the Contract Bills. The contractor has

- i. been informed that the schedule of approximate quantities is liable to alteration by omission, deduction, substitution or additions at the discretion of the Consultant/Bank without affecting the terms of the contract and no compensation to Contractor.
- ii. fully and correctly understood the meaning of all the tender documents, the General Conditions of Contract, Special Condition of Contract, Technical Specifications, Bill of Quantities and working drawings or part thereof.

## **9. CONTRACTORS COVENANTS**

- i. The Tender form conditions, priced schedule of quantities, contract drawings and General and Special Conditions of Contract, specifications, Drawings, priced Bill of Quantities, Schedule of Rates and Prices, if any, Tender, pre-contract correspondence, Letter of Intent/Acceptance, Work order, shall be read and construed as forming part of this agreement and the Contractor shall abide by and submit themselves to all the conditions and stipulations contained therein; which are not specifically incorporated herein;
- ii. The Contractor shall obtain necessary permissions/ certificates/ order from the Competent Authority in respect of workmen employed by them for the Project and shall keep the Bank safe, harmless and reimburse all amounts/expenses incurred or suffered by the Bank in connection with any such claim;
- iii. The Contractors shall not make any claim as regards want of information of any particular point or any change in the rate or conditions save and except as provided herein;
- iv. The Contractors shall have a duly authorized agent at the place of Work to accept services of notice and to agree to extras, omissions, additions and substituted items of Works and rates from the commencement of the Work until it is virtually completed.
- v. In the event of any discrepancy between the details and/or description given in the Bill of Quantities, the Drawings and the Technical Specifications, such item shall be deemed to have been priced in accordance with the details and/or description confirming to the most superior provisions contained in any of the following: -

- a) Bill of Quantities
  - b) Drawings
  - c) Technical Specifications
- vi. It shall be understood that the details and/or description not specifically mentioned in the Bill of Quantities and/or the drawing shall be the same as those mentioned in the Technical Specification. Any further interpretation of above Clause shall be at the discretion of the Consultants, whose decision shall be final and binding on the parties to the contract.
- vii. The Contractors shall not make any claim for increase in the contract consideration on the basis of incorrectness and insufficiency of the information available at the time of submitting the Tender and/ or incorrectness and insufficiency of the rates and prices stated in the price bill of quantity and schedule of rates and prices or otherwise alleging insufficiency of the tender amount to cover their obligation under the contract or matters concerning the execution of the Project.
- viii. The Contractor shall be fully responsible for the adequacy, stability and safety of all site operations and methods of construction, provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the Permanent Works, or for the design or specification of any Temporary Works prepared by the Consultant.
- ix. The Contractor shall promptly inform the Consultant of any error, omission, fault and other defects in design, drawing or specifications for the Works, which are discovered while reviewing the Contract Documents or in the process of execution of the Works.
- x. The Contractor shall arrange for the permits and licenses for release of materials, which are under Government control subject to the Bank giving all the necessary assistance and upon being advised by the Consultant signing any forms or applications that may be necessary.
10. The Contractor shall comply with the provisions of all labour legislation including the requirements of
- a) The Payment of Wages Act
  - b) Workmen's Compensation Act
  - c) Contract Labour (Regulation & Abolition) Act, 1970 and Central Rules 1971.
  - d) Apprentices Act 1961
11. The Contractor shall keep the Bank saved harmless and indemnified against claims if any of the workmen and all costs and expenses as may be incurred by the Bank in connection with any claim that may be made by any workmen.

**12. GENERAL CONDITIONS**

- i. The schedule of Quantities given in the Contract Bill are provisional and are meant to indicate the intent of the Work and to provide a uniform basis for tendering. The Bank reserves the right to increase or decrease any of the quantities or to totally omit any item of Work and the Contractor shall not claim any extras or damages on these grounds.
  - ii. Any error in description or in quantity or omission of items from the Contract Bill shall not vitiate this Contract but shall be treated as a variation.
  - iii. The rates quoted by the Contractor in the priced bill of quantities (Contract Bills) shall be treated as firm and the contract sum shall be deemed to have been calculated with reference to the cost of execution of Works as set out in Contract Documents and shall not be adjusted or altered for any reason other than any adjustments on account of statutory rise or fall in the cost of labour and/or material or any other matters affecting the cost of execution of Works, or price variation adjustment formula if provided.
13. Notwithstanding anything contained elsewhere in any of the clauses of the tender, the prices/rates quoted for each item/Work in the Bills of Quantities shall be deemed to be inclusive of all direct and indirect costs, duties, taxes, sales tax, consignment tax, octroi/local tax, Works contract tax, etc. on any of inputs, royalty on quarried items etc. that may be involved in completing the item/Work as required in the fulfillment of all obligations under the contract and to the satisfaction of the Engineer. Additional Taxes / Levies by Central / State Government legislations after opening of tender shall be reimbursed to the contractors as per actual.
14. All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for Work actually done and completed, and shall not preclude the repairing of bad, unsound, and imperfect or unskilled Work to be removed and taken away and reconstructed, or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim, nor shall, it conclude, determine or affect in anyway the power of the Bank under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract. The final bill shall be submitted by the Contractor within one month of the date fixed for completion of the Work or of the date of certificate of completion furnished by the Consultant and payment shall be made within eight (8) weeks from the date of receipt of final Certificate from the Consultant.

## 15. INSURANCE

- i. Without limiting the obligations and responsibilities under Contract Clause for Care of Work the Contractor shall effect third party insurance with an insurer and in terms approved by the Bank in the joint names of the Bank and the Contractor-
- ii. against all loss or damage from whatever cause arising, other than the excepted risks stated in contract clause of the General Conditions for which the Contractor is to be held responsible under the terms of the



Contract so as to cover the Bank and the Contractor during the period beginning with commencement of the Works until the date stated in the Certificate of Completion for the whole of the Works.

- iii. against any loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purposes of completing the outstanding Work during the Defects Liability period pursuant to the Undertaking given at the time of applying for the issue of Certificate of Completion.
- iv. against any loss or damage occasioned by the Contractor in the course of any operations carried out by him for rectifying any defect in perfection or fault appearing during the progress of the Work or during the Defects Liability Period.
- v. against any loss or damage occasioned by the Contractor in the course of any operations carried out by him for searching the cause of any defect, imperfection or fault appearing during the progress of the Works or during the Defects Liability Period.
- vi. against any liability for or in respect of any damages or compensation payable at law in respect of or in consequence of any accident or injury to any workmen or other person in the employment of the sub-Contractor provided the sub-contractors shall not have insured against such contingency. (Insurance against accident etc. to workman)
- vii. Unless otherwise instructed the Contractor shall insure the Works and keep them insured until the virtual completion of the contract against loss or damage by fire and/or earthquake, flood.
- viii. The Contractor shall maintain Contractors' all risks insurance policy covering loss, damage, theft, burglary etc. of all materials and equipments, temporary Works and the Work shall be insured for a total sum equal to the value of all such items plus 10% of such value.

Provided always that all the insurance under the contract documents shall be arranged by the Contractor from a first class insurance company having a branch near the site who can deal with all matters pertaining to the subject, the insurance must be placed with a company approved by the Bank, in the joint names of the Bank and the Contractor for such amount and for any further sum if called to do so by the Bank, the premium of such further sum being allowed to the Contractor as an authorized extra.

16. The Contractor shall deposit the policy and receipt for premiums paid with the Bank within 21 (twenty one) days from the date of issue of Work order unless otherwise instructed. In default of the Contractor insuring as provided above, the Bank on his behalf may so insure and may deduct the premiums paid from any money due, or which may become due to the Contractor. The Contractor shall as soon as the claim under the policy is settled or the Work reinstated by the Insurance Company should they elect to do so, proceed with due diligence with the completion of the Works in the same manner as though the insured risk/contingency has not occurred and in all respects under the conditions of the contract. The Contractor in

case of rebinding or reinstatement after the occurrence of the insured risk/contingency shall be entitled to such extension of time for completion as the Bank may deem fit.

- 16.1 Such insurance shall continue during the whole of the time of continuance of Work and/or during such time that any persons are employed by him on the Works and shall when required produce before the Bank or the consultant, such policy of insurance and the receipt for payment of the earlier premium and the current premium.
- 16.2 The insurance shall be effective in such manner that the Bank is indemnified under the policy. In the event of the sub-contractor having effected an insurance against accident etc. to the workmen the Contractor shall require such sub-contractor to produce to the Bank / consultant when required, such policy of insurance and the receipt for the payment of the current premium, then in that event insurance under clause (vii) hereof by the Contractor shall not be necessary.
17. The Contractor shall provide for adequate cover to the Bank as per the provisions of Workmen Compensation Act.
- 17.1 The Contractor shall make available the insurance cover note before the commencement of the Work and shall notify any change in the nature or extent of the Work and also make available additional insurance of Works if required in special circumstances.

**18. DEFECTS LIABILITY**

- 18.1 Any defects, shrinkages or other faults which shall appear within the Defects Liability Period of 12 months from the date of handing over the works and which are due to materials or workmanship not in accordance with this contract or on account of failure on the part of the Contractor to comply with any of his obligations expressed or implied shall be specified by the consultant in a schedule of defects which he shall deliver to the Contractor not later than 14 days after the expiration of the Defects Liability Period, and within a reasonable time after receipt of such schedule the defects, shrinkages and other faults therein specified shall be made good by the Contractor and (unless the consultant shall otherwise instruct, in which case the contract sum shall be adjusted accordingly) entirely at his own cost.
- 18.2 The Contractor shall make good at his own costs and to the satisfaction of the consultant, all defects, shrinkages or small faults arising in the opinion of the consultant / engineer from Work or materials not being in accordance with the drawings or specifications or schedule of quantities or the instructions of the Engineer / consultant, which may appear within the **"Defects Liability Period of 12 months from the date of handing over completed site"** referred to in the Appendix to General Conditions. All defects, shrinkages or small faults arising from any other cause not attributable to the Contractor shall be rectified by the Contractor as an additional work.

- 18.3 In the event of failure of the Contractor to carry out any such work to the satisfaction of the Engineer / consultant, the Bank shall be entitled to carry out the same at the Contractor's costs and all expenses consequential and incidental thereto shall be deducted by the Bank from any monies due or to become due to the Contractor.
- 18.4 When in the opinion of the Engineer / consultant any defects, shrinkages or other faults which he may have required to be made good under sub-clause (1) and (2) of this condition shall have been made good he shall issue a certificate to that effect, and completion of making good defects shall be deemed for all the purposes of this contract to have taken place on the day named in such certificate.

**19. SPECIAL RISK**

The Contractor shall not be liable for or in respect of any consequences arising out of any special risks as enumerated in Clause 65 of the General Conditions. The responsibilities, rights and liabilities of the parties in such case shall be determined with respect to Clause 65 of the General Conditions.

**20. STATUTORY OBLIGATIONS, NOTICES, FEES AND CHARGES**

The Contractor shall comply with and give all notices required by any Act of Parliament, any instrument rule or order made under any Act of Parliament, or any regulation or byelaw of any local authority or of any statutory undertaker which has any jurisdiction with regard to the Works or with whose systems the same are or will be connected. The Contractor before making any variation from the contract drawings or the contract bills necessitated by such compliance shall give to the Engineer / consultant a written notice specifying and giving the reason for such variation and the Engineer / consultant may issue instructions in regard thereto. If within 7 days of having given the said written notice the Contractor does not receive any instructions in regard to the matters therein specified, he shall proceed with the Work confirming to the Act of Parliament, instrument, rule, order, regulation or byelaw in question and any variation thereby necessitated shall be deemed to be a variation required by the Engineer / consultant.

**21. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS**

- 21.1 All the Works specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and most workmanlike manner with materials of the best and approved quality of the respective kinds in accordance with the particulars contained in and implied by the specifications and as represented by the drawings or according to such other additional particulars, and instructions as may from time to time be given by the consultant /Engineer during the execution of the Work, and to his entire satisfaction.

- 21.2 If required by the consultant /Engineer the Contractor shall have to carry out tests on materials and workmanship in approved materials testing laboratories or as prescribed by the consultant /Engineer at his own cost to prove that the materials etc., under test conform to the relevant I.S. Standards or as specified in the specifications. The necessary charges for preparation of mould (in case of concrete cube) transporting, testing etc., shall have to be borne by the Contractor. No extra payment on this account should in any case be entertained.
- 21.3 In case contractor is delaying or refusing or avoiding testing of material, the consultant/engineer shall arrange for carrying out testing of material and the necessary expenditure in carrying out the testing, transportation and incidental expenses shall be recovered from the contractor.
- 21.4 All the materials (except where otherwise described) stores and equipment required for the full performance of the Work under the contract must be provided through normal channels and must include charge for import duties, sales tax, octroi and other charges and must be the best of their kind available and the Contractor/s must be entirely responsible for the proper and efficient carrying out of the Work. The Work must be done in the best workmanlike manner. Samples of all materials to be used must be submitted to the Consultant/Engineer when so directed by the Consultant / Engineer and written approval from Consultant / Engineer must be obtained prior to placement of order.
- 21.5 During the inclement weather the Contractor shall suspend concreting and plastering for such time as the Consultant /Engineer may direct and shall protect from injury all Work when in course of execution. Any damage (during constructions) to any part of the Work for any reason due to rain, storm or neglect of Contractor shall be rectified by the Contractor in an approved manner at no extra cost.
- 21.6 If the Work be suspended by reason of rain, strike, lock-outs or any other cause, the Contractor shall take all precautions necessary for the protection of Work and at his own expenses shall make good any damage arising from any of these causes.
- 21.7 The Contractor shall cover up and protect from damage from any cause, all new Work and supply all temporary doors, protection to windows, and any other requisite protection for the execution of the Work whether by himself or special tradesmen or sub-contractor and any damage caused must be made good by the Contractor at his own expenses.

## 22. SUBSTITUTION

Should the Contractor desire to substitute any materials and workmanship, he/they must obtain the approval of the Bank / Consultant in writing for any such substitution well in advance. Materials designated in this specification indefinitely by such term as “Equal” or “Other approved” etc. specific approval of the Bank/Consultant has to be obtained in writing. The

term equivalent means, if material specified is not available, then after satisfying to the fact, the consultant / engineer may give other material to be used which will be subject to adjustment in purchase prices.

### **23. INSPECTION OF WORKS**

- 23.1 All materials and workmanship shall be subject to inspection, examination and test at any and all times during manufacture and/or construction. The Consultant may issue instructions requiring the Contractor to open up for inspection any Work covered up or to arrange for or carry out any test at any and all times.
- 23.2 The Consultant / Engineer shall have the right to reject the defective material and workmanship or require its correction.
- 23.3 The test of any materials or goods (whether or not already incorporated in the Works) or of any executed Work, and the cost of such opening up or testing (together with the cost of making good in consequence thereof) shall be added to the contract sum unless provided for in the contract bills or unless the inspection or test shows that the Work, materials or goods are not in accordance with this contract.
- 23.4 The Consultant / Engineer may issue instructions in regard to the removal from the site of any Work, materials or goods, which are not in accordance with this contract.
- 23.5 The Engineer may (but not reasonably or veraciously) issue instructions requiring the dismissal from the Works of any person employed thereon.
- 23.6 On the failure of the Contractor to comply with any of the Engineer's instructions the Engineer may proceed to replace or correct such material/workmanship entirely at the cost of the Contractor.

### **24. REMOVAL OF IMPROPER WORK**

The Bank shall during the progress of the Work have power to order in writing from time to time the removal from the Work within such reasonable time or times as may be specified in the order of any materials which in the opinion of the Consultant / Engineer are not in accordance with specification or instructions, the substitution or proper re-execution of any Work executed with materials or workmanships not in accordance with the drawings and specifications or instructions. In case the Contractor refuses to comply with the order the Bank shall have the power to employ and pay other agencies to carry out the Work and all expenses consequent thereon or incidental thereto as certified by the Consultant / Engineer shall be borne by the Contractor or may be deducted from any money due to or that may become due to the Contractor. No certificate which may be given by the Engineer shall relieve the Contractor from his liability in respect of unsound Work or bad materials.

### **25. PROTECTIVE MEASURES**

- 25.1 The Contractor from the time of being placed in possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays.
- 25.2 Contractor shall indemnify the Bank against any possible damage to the building, roads, or members of the public in course of execution of the work.
- 25.3 The contractor shall provide necessary temporary enclosures etc. for the protection of the work and materials and for altering and adopting the same as may be required and removing on completion of the works and making good all works disturbed.

**26. NOTICE AND PATENTS OF APPROPRIATE AUTHORITY AND OWNERS.**

- 26.1 The Contractor shall conform to the provisions of any Acts of the Legislature relating to the Work, and to the Regulations and Bye-laws of authorities, and/or any water, lighting and other companies, and/or authorities with whose systems the structures were proposed to have connection and shall before making any variations from the drawings or specification that maybe associated to so conform, give the Consultant / Engineer written notices, specifying the variations proposed to be made and the reasons for have making them and apply for instruction thereon. The Consultant / Engineer on receipt of such intimation, shall give a decision within a reasonable time.
- 26.2 The Contractor/s shall arrange to give all notices required for by the said Acts, Regulations or Bye-laws to be given to any authority, and to pay to such authority or to any public officer all fees that may be properly chargeable in respect of the Work and lodge the receipts due with the Bank.

**27. ASSIGNMENT AND SUB-LETTING**

- 27.1 The whole of the Works included in the contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, shall take a new partner, without written consent of the Bank and no subletting shall relieve the Contractor from the full and entire responsibility of the contract or from active superintendence of the Work during their progress.
- 27.2 The Contractor shall not assign the Contract or any benefit or interest therein or there under, otherwise than by a charge in favour of the Contractor's bankers of any monies due or to become due under this Contract, without the prior written consent of the Bank.
- 27.3 The Contractor shall not sub-let the whole of the Works except where otherwise provided by the contract, the Contractor shall not sublet any part of the Works without the prior written consent of the Engineer, which shall not be unreasonably withheld, and such consent, if given shall not relive the Contractor from any liability or obligation under the contract and he shall

be responsible for the acts, defaults and neglects of any sub-contractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen. Provided always that the provision of labour on a piecework basis shall not be deemed to be a subletting under this clause. The Contractor shall co-ordinate and shall be responsible for all aspects of his sub-contractor(s) without being relieved of any of his obligation under the contract.

- 27.4 If, the contracting agencies are violating the tender terms and sub-let the work without bank's consent and the same is brought to the notice of the Bank, the Bank will be entitled to recover 10% of such work as penalty besides initiating measures as provided in contract.
- 27.5 If, at any time during the execution of the Works, the Consultant / Engineer shall require the Contractor to make boreholes or to carry out exploratory excavation, such requirement shall be ordered in writing and shall be deemed to be an addition ordered under the provisions of the General Conditions unless a provisional sum in respect of such anticipated Work shall have been included in the Bill of Quantities.
- 27.6 The Contractor shall in connection with the Works provide and maintain at his own costs all lights, guards, fencing and watching when and where necessary or required by the Consultant / Engineer or the Bank, or by any duly constituted authority, for the execution and for the protection of the Works, and/or for the safety and convenience of the public / others.
- 27.7 The Contractor shall, in accordance with the requirements of the Consultant / Engineer, afford all responsible opportunities for carrying out their Work to any other Contractors employed by the Bank and their workmen and to the workmen of the Bank and of any other duly constituted authorities who may be employed in the execution on or near the Site of any Work not included in the contract or of any contract with the Bank may enter into in connection with or ancillary to the Works. The Contractor will not be paid any compensation on this account.
- 27.8 Shall keep the Site reasonably free from unnecessary store of constructional plant and machinery, wreckage and rubbish during progress of Works and on completion leave the whole site clean and in a workmanlike condition to the satisfaction of the Consultant / Engineer.

## **28. Default of Contractor**

- 28.1 If the Contractor
- i. being a company presents a petition for winding up and/or goes into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction) or
  - ii. shall make an assignment or a composition for the benefit of the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or

- iii. if a Receiver of the Contractor's firm appointed by the court shall be unable, within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Bank that he is able to carry out and fulfill the contract, and if so required by the Bank to give reasonable security therefore, or
- iv. if the Contractor shall suffer execution to be issued, or
- v. shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the Contractor, or
- vi. shall assign, charge or encumber this contract or any payments due or which may become due to the Contractor without the consent in writing of the Bank first obtained, there under, or
- vii. shall agree to carry out the contract under a committee of inspections of his creditors, or
- viii. shall have an execution levied on his goods, or
- ix. shall use improper materials or workmanship in carrying on the Works, or
- x. shall in the opinion of the Bank not exercise such due diligence and make such due progress as would enable the Work to be completed within due time agreed upon, and
- xi. the Consultant / Engineer certifies in writing that the Contractor has failed to commence the Works or failed to proceed with the Works after the suspension order when so called upon by the Consultant / Engineer, or
- xii. Shall abandon the contract,
- xiii. Without reasonable excuse has failed to commence the Works or have suspended the progress of Works for 28 days after receiving from the Consultant / Engineer written notice to proceed on
- xiv. has failed to remove materials from the site or to pull down or replace for 28 days after receiving from the Consultant / Engineer written notice that the said materials or Work has been condemned and rejected by the Consultant / Engineer under these conditions or
- xv. despite previous writings by the Consultant / Engineer in writing has failed to execute Works in accordance with the contract, or is persistently or flagrantly neglecting to carry out his obligations under the contract or as to the detriment of good workmanship or in defiance of the Consultant / Engineer's instructions to the contrary, sublet any part of the contract then and in any of the said cases the Bank may notwithstanding previous waiver
  - a) determine the contract by after giving 14 days notice in writing to the effect as hereinafter mentioned, but without thereby affecting the powers of the Bank or the obligations and liabilities of the Contractor the whole of which shall continue in force as fully as if the contract, had not been so



determined and as if the Works subsequently executed had been executed by or on behalf of the Contractor (without thereby creating any trust in favour of the Contractor)

b) Further the Bank or his agent, or servants, may enter upon the Site and take possession of the Work and all Constructional Plant, amenities, unused materials, tools, scaffolding, sheds, machinery, steam and other power, utensils and materials lying upon premises or the adjoining lands or roads reserved for the execution of the Works and

- sell the same as his own property or
- may employ the same by means of his own servants and workmen in carrying on and completing the Works or
- by employing any other Contractors or other persons or person to complete the Works, and the Contractor shall not in any way interrupt or do any act, matter of thing to prevent or hinder such other Contractors or other persons or person employed from completing and finishing or using the materials and plants for the Works when the Works shall be completed, or as soon thereafter as conveniently may be, the Bank shall give notice in writing to the Contractor to remove his surplus materials and plants and should the Contractor fail to do so within a period of 14 days after receipt by him the Bank may sell the same by Public Auction and shall give credit to the Contractor for the amount so realized.

28.2 Any expenses or losses incurred by the Bank in getting the Works carried out by other Contractors shall be adjusted against the amount payable to the Contractor by way of selling his tools and plants or due on account of Work carried out by the Contractor prior to engaging other Contractors or against the Security Deposit.

28.3 Upon such entry and expulsion by the Bank the Consultant / Engineer may adopt an appropriate mode at his discretion and certify the amounts, if any, that had at the time of such entry and expulsion reasonably been earned in respect of the work actually done by him and the value of any unused or partially used materials, any Constructional Plant and any amenities brought into existence exclusively for execution of the Works.

28.4 If the Bank shall enter and expel [the Contractor] under this Clause, he shall not be liable to pay to the Contractor any money on account of the Contract, until the expiration of the Defects Liability Period and thereafter until the costs of execution, damages for delay in completion, if any, and all other expenses incurred by the Bank have been ascertained and the amount thereof certified by the Consultant / Engineer. The Contractor shall then be entitled to receive only such sum or sums, if any, as the Consultant / Engineer may certify would have been payable to him upon due

completion by him after deducting the said amount. If such amount shall exceed the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the

Bank the amount of such excess and it shall be deemed a “debt due” by the contractor to the Bank and shall be recoverable accordingly.

**29. DEFAULT OF THE BANK**

29.1 The Contractor may, if -

- a. The Bank does not pay to the Contractor the amount due on any certificate within four weeks from the receipt of Certificate from the Consultant honouring certificates named in the appendix to these conditions and continues such default for 7 days after receipt by registered post or recorded delivery of a notice from the Contractor stating that notice of determination under this condition will be served if payment is not made within 7 days from receipt thereof; or
- b. The Bank interferes with or obstructs the issue of any certificate due under this contract; or
- c. The carrying out of the whole or substantially the whole of the uncompleted Works is suspended by the Bank for a continuous period of 90 days;
- d. The Bank becomes bankrupt or makes a composition or arrangement with his creditors or has a winding up order or (except for the purposes of reconstruction) a resolution for voluntary winding up passed or a receiver or manager of his business or undertaking is duly appointed, or possession is taken by or on behalf of the holders of any debentures secured by a floating charge, of any property comprised in or subject to the floating charge,
- e. if the Bank gives a formal notice of his inability to meet his contractual obligations after giving 14 days prior written notice by registered post or recorded delivery to the Bank with a copy to the Consultant / Engineer terminate the employment of the Contractor PROVIDED that such notice shall not be given unreasonably or veraciously.

29.2 Upon the expiry of 14 days notice referred to herein, the Contractor shall with all reasonable dispatch remove from the site all constructional plant brought by him thereon.

29.3 Upon such determination, without prejudice to the accrued rights or remedies of either party or to any liability which may accrue either before the Contractor or any sub-contractors shall have removed his temporary buildings, plant, tools, equipment, goods or materials or by reason of his or their so removing the same, the respective rights and liabilities of the Contractor and the Bank shall be as follows, that is to say:

- a. The Contractor shall with all reasonable dispatch and in such manner and with such precautions as will prevent injury, death or damage of the classes in respect of which before the date of determination he was liable to indemnify the Bank remove from the site all his temporary buildings, plant, tools, equipment, goods and materials and shall give facilities for his sub-contractors to do the same;

- b. After taking into account amounts previously paid under this contract the Contractor shall be paid by the Bank for;
- The total value of Work completed at the date of determination;
  - The total value of Work begun and executed but not completed at the date of determination, the value being ascertained if such Work were a variation required by the Consultant / Engineer;
  - The cost of materials or goods properly ordered for the Works for which the Contractor shall have paid or for which the Contractor is legally bound to pay, and on such payment by the Bank any materials or goods so paid for shall become property of the Bank;
  - The reasonable cost of removal under paragraph (a) of this sub-clause.
  - And in addition the amounts payable in respect of any preliminary item, so far as the work or service comprised therein has been carried out or performed and a proper proportion as certified by the Consultant / Engineer of any such item, work or service comprised in which has been partially carried out or performed.
  - A sum certified by the Bank being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works in so far as such expenditure shall not have been covered by the payments made under this clause.
  - The reasonable costs of repatriation of all the Contractor's staff and workmen, employed on or in connection with the Works at the time of such termination.

Provided always that against any payment due from the Bank under this sub-clause, the Bank shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of constructional plant and materials and any other sums which at the date of termination were recoverable by the Bank from the Contractor under the terms of the Contract. The Bank shall also return all Bank Guarantees and Retention after proper accounts have been settled between the Contractor and the Bank.

Provided that in addition to all other remedies the Contractor upon such determination take possession of and shall have a lien upon all unfixed goods and materials, which may have become the property of the Bank until payment of all monies due to the Contractor from the Bank.

- 29.4 If a war or other circumstances outside the control of both the parties, arises after the Contract is made, so that either party is prevented from fulfilling his contractual obligations, or under the law governing the Contract, the parties are released from further performance, then the sum payable by the Bank to the Contractor in respect of the Work executed shall be the same as that which would have been payable under Clause 32 hereof as if the Contract had been terminated under the provisions of Clause 32

hereof. Performance of obligations becoming more onerous shall not be considered as a cause for “Frustration”.

### **30. NOTICES**

- 30.1 All certificates, notices or written orders to be given by the Bank or by the Consultant / Engineer to the Contractor under the terms of the Contract shall be served by sending by registered post or by Courier or delivering the same to the Contractor’s principal place of business, or such other address as the Contractor shall nominate for this purpose.
- 30.2 All notices to be given to the Bank or to the Consultant / Engineer under the terms of the Contract shall be served by sending by registered post or by Courier or delivering the same to the respective addresses nominated for that purpose in Part II of these conditions.
- 30.3 Either party may change a nominated address to another address in the country where the Works are being executed by prior written notice to the other party and the Consultant / Engineer may do so by prior written notice to both parties.

### **31. ARBITRATION**

- 31.1 Wherever, in any of the documents forming part of the Contract, the Consultant / Bank has been vested with the final powers, his decision, opinion, certificate or any other discretion shall be final conclusive and binding on the parties and shall be without appeal. All other matters shall be subject to the right of arbitration.
- 31.2 All disputes or differences of any kind whatsoever save and except matters referred to in clause 1) arising out of or in connection with the Contract, whether during the progress of Work or after Completion and shall after written notice by either party to the contract to the other of them and to the Bank hereinafter mentioned be referred for adjudication to two Arbitrator, one each to be nominated by the Contractor and the Bank, who shall thereafter appoint an Umpire. The provisions of Indian Arbitration and Conciliation Act 1996 shall apply for the purposes.
- 31.3 The Work under the Contract shall, however, continue during the arbitration proceedings and no payment due or payable to the Contractor shall be withheld on account of such proceedings.
- 31.4 The Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the first hearing.
- 31.5 The Arbitrator may from time to time, with the consent of the parties, enlarge the time for making and publishing the award.
- 31.6 The Arbitrator shall give a separate award in respect of each dispute or difference referred to him. The Arbitrator shall decide each dispute in accordance with the terms of the contract and give a reasoned award. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion.

- 31.7 The fees, if any, of the Arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle and amount of costs to be so paid.
- 31.8 The award of the Arbitrator shall be final and binding on both the parties.
- 31.9 Subject to aforesaid the provisions of the Arbitration & Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made there under, and for the time being in force, shall apply to the arbitration proceeding under this clause.
- 31.10 The Bank and the Contractor hereby also agree that arbitration under clause shall be a condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration.

**AS WITNESS** the hands of the said Parties.

Signed by the said  
In the presence of

Bank

Witness  
Name:  
Address

Signed by the said  
In the presence of

Contractor

Witness  
Name:  
Address

**DOCUMENTS ATTACHED TO THE AGREEMENT FORMING PART & PARCEL OF THE AGREEMENT**

- Tender document & tender drawings.
- NIT vide .
- Addendum issued vide
- Contractor's letter dated
- Work order vide.

**GENERAL INSTRUCTIONS TO CONTRACTORS  
AND SPECIAL CONDITIONS**

- 1) Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

- 2) The Tender Form must be filled in English and all entries must be made by the hand and written in ink, If any of the documents is missing, or unsigned, the Tender may be considered invalid by the Bank in its discretion.
- 3) 50% of retention money and initial security deposit will be returned against submission of Bank Guarantee valid for a period of 12 months of Defect Liability Period and after I) issue of virtual completion certificate by the Consultant of the work. II) Contractor's removal of his material, equipments, labour force, temporary sheds / stores, etc. from the site (excepting for small presence required, if any, for defect liability period and approval by the bank)

Balance 50% of retention money and security deposit shall be released to the contractor fourteen days after the end of completion of defect liability period provided he has satisfactorily carried out all the works and attended to all the defects in accordance with the conditions of contract including site clearance.

- 4) The contractor shall not assign the contract. He shall not sub-let any portion of the contract except with the written consent of the Bank. In case of breach of these conditions, the Bank may serve a notice in writing on the contractor rescinding the contract whereupon the Security Deposit shall stand forfeited to the Bank, without prejudice to his other remedies against the contractor. Central Govt. / State Govt. organization will not be allowed to sublet the work on back-to-back basis.
- 5) The contractor shall carry out of all the work strictly in accordance with Drawings, details and instructions of the Architect, Consultant and the Bank. If in the opinion of the Architect, consultant or the Employer, changes have to be made in the design and with the prior approval in writing of the Employer, they desire the contractor to carry out the same; the contractor shall carry out the same without any extra charge. The Bank's decision in such cases shall be final and shall not be open to arbitration.
- 6) A Schedule of probable quantities in respect of each work and specifications accompany these special conditions. The Schedule of probable quantities is liable to alteration by omission, deductions or additions at the discretion of the Architect/ Bank. No claim will be entertained from the contractor on account of loss of profit over revising the tender rates.
- 7) The Tenderer must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of filling of Tender and for entering into a contract and must examine the drawings and must inspect the site of the work and acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto. No compensation will be paid on account of not getting proper information.

- 8) The rates quoted in the Tender shall be inclusive of all charges for clearing of site before commencement as well as after completion, water, electrical consumption, meters, double-scaffolding, centering, boxing, staging, planking, timbering and pumping out water, including bailing, fencing, planking, timbering and pumping out water, including bailing, fencing, hoarding, plant and equipment, storage sheds, watching and lighting by night as well as day, including Sundays and Holidays, temporary plumbing and electric supply, protection of the public and safety of adjacent roads, streets, cellars, vaults, open pavements, walls, houses, buildings and all other erections, matters or things and the contractor shall take down and remove any or all such centering, scaffolding, staging, planking, timbering, strutting, shoring, etc. as occasion shall require or when ordered so to do, and fully reinstate and make good all matters and things disturbed during the execution of the work and to the satisfaction of the Bank / Consultant.
- 9) Time allowed for carrying out the work as mentioned in the Memorandum shall be strictly observed by the contractor and its shall be reckoned from the 10 days after acceptance of order to commence the work or the date of handing over the site to the contractor whichever is later. The work shall throughout the stipulated period of the contract be proceeded with all due diligence and if the contractor fails to complete the work within the specified period i.e. **75 days**, he shall be liable to pay compensation as defined in the conditions of contract.
- 10) The contractor shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing the work, whatever the case of delays may be, including delays arising out of modifications to the work entrusted to him or in any sub-contract connected therewith or delays in awarding contracts for other trades if the project or in commencement or completion of such works or in procuring government controlled or other building materials or in obtaining water and power connections for construction purposes or for the other reasons whatsoever and the Employer shall not be liable for any claim in respect thereof. The Employer does not accept liability for any sum besides the Tender amount, subject to such variations as are provided for herein.
- 11) The successful Tenderer is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the quantities and rates. Schedule of instructions in respect of such additional items and their quantities will be issued in writing by the Architect / consultant with the prior consent in writing of the Bank.
- 12) The successful Tenderer must co-operate with the other contractors appointed by the Employer so that the work shall proceed smoothly with the least possible delay and to the satisfaction of the Architects / Consultant.
- 13) The contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications made by the Architect / Consultant and also in compliance of the requirements of the Authorities concerned and no deviation on any account will be permitted.

- 14) (i) The rates quoted in the Schedule rates also include the expenditure for providing all the water required for the work and the contractor shall make his own arrangements for the supply of good quality water including obtaining Municipal connection for his labour as well as for construction purpose and all charges shall be borne by him. If Municipal water connection is not available and should it become necessary for the contractor to drill a bore well for obtaining water for construction purposes or to bring water from outside by Tankers, The Bank shall not be liable to pay any charges in connection therewith.
- (ii) The rates quoted in the Tender shall also include Electric consumption charges for Power. If no power is available at site, the contractor shall have to make his own arrangement to obtain electric power connection and maintain at his own cost an efficient service of electric light and power and shall pay for the electricity consumed.
- (iii) For water and power, the contractor to whom the work is allotted shall maintain the same in good working conditions.
- (iv) Contractor for other trades appointed by the Bank shall also be allowed to use water and power available by fixing reasonable charges mutually agreed.
- (v) Any dispute regarding payment for water and power charges by the other contractor and or by subsidiary agencies appointed by the Bank to the contractor, who has obtained the temporary connections and allowed sub-connections, will be settled by the Bank / Consultant and the decision taken by the Bank / Consultant shall be final and shall be that of the contractor.
- (vi) The Bank as well as the Consultant shall give all possible assistance to the Contractor to obtain the requisite permission from the various authorities, but the responsibility for obtaining the same shall be that of the contractor.
- (vii) If no such facility is available at the site of work and if available found inadequate, it shall be the responsibility of the contractor to make his own arrangement for obtaining water and power at his cost.
- 15) The contractor will have to obtain completion / clearance certificate in respect of services such as water supply, sewerage, etc. The contractor will also obtain permanent water connection for the entire project. The Bank will pay necessary fee to be made to Govt. authorities.
- 16) The Contractor shall strictly comply with provision of safety code annexed hereto.
- 17) The contractor shall indemnify Union Bank of India, against any claim or legal action arising out of the said Act due to the failure of non-compliance of the provisions of the said Act and the penalty or any other amount levied by the authorities, shall be recoverable from the payments due to the contractors.



- 18) The Contractor shall comply with the provision of the Apprentices Act, 1961, and the Rules and Orders issued there under from time to time. Failure to do so will be in a breach of the contract and the Architect / consultant and the Bank may in their discretion cancel the contract. The contractor shall also be liable for any pecuniary or other liabilities arising on account of any violation by him of the provisions of the Act.
- 19) The Security Deposit of the successful Tender will be forfeited if he fails to comply with any of the conditions of the contract.
- 20) The contractor shall be responsible for the observance of all Central Rules and Regulation framed by the Central Government under the Contract Labour (Regulation and Abolition) Act.1970. The Bank shall be entitled to deduct all damages, which it might suffer on account of non-observance of these rules by the Contractor, from the amount payable to the Contractor.
- 21) Contractors are not allowed to remove materials brought at Site against which advances have been paid.
- 22) The Contractor is to provide at all times during the progress of the works and the maintenance period / defect liability period proper means of access, with ladders, gangways, etc., and the necessary attendance to move and adopt as directed for the inspection or measurement of the works by the Consultant or their representatives.
- 23) Materials shall be of approved quality and the best of their kind available and shall generally conform to I.S. Specifications. The Contractor shall order all the materials required for the execution of work as early as necessary and ensure that such materials are on site well ahead or requirement for use in the work. The work involved calls for approved standard of workmanship combined with speed and to the entire satisfaction of the Architect/ consultant. All the material shall be approved by the Consultant / Bank before use. Contractor to arrange samples well in time.
- 24) The Contractors shall after completion of the work clear the Site of all debris and left over materials at his own expenses to the entire satisfaction of the Bank / Consultant and Municipal or other public authorities.
- 25) The contractor herewith agrees that in respect of inspection of works by the Chief Technical Examiner of the works, wing of Central Vigilance Commission and the bills of the contractor including all supporting vouchers, abstract etc. to be made after payment of the bills and if as a result of such audit and technical examination any sum is found to have been over paid in respect of any work done by the contractor under the contract of any work claimed by him to have been done by him under the contract and found not to have been executed or any work is found not to have been executed in accordance with the contract, the contractor shall be liable to refund the amount of over payment made already and it shall be lawful for the bank to recover the same from him in any manner the bank deems fit either from any payments due and / or becoming due to the contractor or from the security deposit or retention money or through any

further bills and / or final bill or in any other manner whatsoever not excluding through recourse to legal action. The certification of bills / measurements by consultant / Architect and Engineer will be scrutinized by the Bank's Central Office / Audit / Vigilance and any deficiency will be corrected accordingly. Contractor cannot insist for payment just because it is signed by consultant / architect / engineer. The contractor herewith agrees to co-operate with the Bank / Consultant while such examinations of works and redo the things without any extra cost to the Bank. It is essential and agreed condition of the contract that any such action taken by the bank shall deemed to be the fully legal and valid and binding on the contractor.

- 26) Contractors are requested to note that no extra item or deviated item of work to be executed without taking prior permission, the Bank shall not be held responsible for the payment of such works executed. Contractors will have to submit all the particulars including purchase bills/price list for the materials along with the rate analysis for verification of item rates.
- 27) If it is observed the existing compound wall, gates railings are damaged then the contractors will have to make good the same at their own cost.
- 28) If contractors fail to pay the taxes/royalties to the Authorities concerned, the bank reserve their rights to recover the said amount from the amount payable to the contractor and pay the same to the Authorities concerned.
- 29) Work is to be executed & measurements are to be paid as per the detail specification & description of item given in the Standard Specification Book except for the items which are specifically mentioned in the tender for which the details of item and mode of measurements to be followed as indicated separately in the conditions of contractors.
- 30) If there are any contracting clauses mentioned in the tender, the interpretation of the same will be done by the Architect / consultant. However, the decision of the Bank will be final and binding.
- 31) After awarding the work, contractor shall get registered with the office of the Labour commissioner and inform Bank accordingly. Contractors shall follow all rules and regulations stipulated by the Labour Commissioner strictly.
- 32) Contractors shall quote consistent rates for the items of similar nature or analogous in specifications for the sections in schedule of quantities. If it is observed that the rates quoted for similar nature of items or analogous in specification under different sections, are inconsistent, then the Bank reserves his right to consider the lowest of rates for all such items and work out the final amount for payment, unless the competent authority finds that there is justifications for such inconsistent rates.
- 33) The contractor shall give a list of his relatives working with the bank along with their designations and addresses.
- 34) No employee of the bank is allowed to work as a contractor for a period of two years of his retirement from bank service, without the previous

permission of the bank. The contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of the bank as aforesaid before submission of the tender or engagement in the contractor's service.

**THE CONDITIONS HEREINBEFORE REFERRED TO**

- 1. Definition of terms / interpretation:**

In construction these conditions, the specification schedule of quantities and contract agreement, the following words shall have the meanings herein assigned to them except where the subject or context otherwise requires.

- (a) “Employer/ / owner / Bank” shall mean **”Union Bank of India, Government of India undertaking”** having Central Office at **239, Vidhan Bhavan Marg, Nariman Point, Mumbai - 400 0021** and any of its employees representatives authorized on their behalf.
- (b) “Architect / consultant” - shall mean **M/s. Vastu Mandal** , having their registered office at **F-328, 3<sup>rd</sup> Floor, Lado Sarai, New Delhi 110030, Ph 011-41665455** or in the event of his or their ceasing to be Architect / Consultant for the purpose of this contract such other person as the Bank shall nominate for the purpose.
- (c) “Contractors” (in case of partnership) shall mean.....and .....trading as partners in the name and style of. ....and shall include partners for the time being of the said firm and the legal representatives of a deceased partner.
- “Contractors” (in case of individuals) shall mean.....and .....trading in the name and style of. ....and shall include his / their heirs, legal representative assigns or successors.
- “Contractors” (in case of company) shall mean.....a company incorporated under .....19.....and having its registered office at .....and shall include its successors and assigns.
- (d) “Site” shall mean **“Work Place located at Union Bank of India’s Rented Premises at UNIT NO.602, 6TH FLOOR GLOBAL BUSINESS SQUARE, BUILDING NO 32, SECTOR-44, INSTITUTIONAL AREA GURUGRAM,122003.**  
include any building and erections thereon and any other land (inclusively), as aforesaid, allotted by the Bank for the contractor’s use.
- (e) Site Engineer / Engineer: The Engineer appointed by the Bank / Architect / Consultant for the management of the project.
- (g) “The works” shall mean the work or works to be executed or done under this contract.
- (h) “This Contract” shall mean Articles of Agreement, the special conditions, the general conditions of contract, the appendix, the schedule of quantities and specifications, attached hereto and duly signed.
- (i) “Notice in writing” or written notice shall mean a notice in written, typed or printed characters sent (unless delivered personally or otherwise proved to have been received), by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post, it would have been delivered.

- (j) “Act of Insolvency” shall mean any Act of Insolvency as defined by the Presidency Towns Insolvency Act, or the Provincial Insolvency Act or any amending such original.
- (k) “The Schedule of Quantities” shall mean the schedule of quantities as specified and forming part of this contract.
- (l) “Priced Scheduled of Quantities” shall mean the schedule of quantities duly priced with the accepted quoted rates of the contractor.
- (m) “Net Prices” If in arriving at the contract amount, the contractor shall have added to or deducted from the total of the items in the Tender any sum either as a percentage or otherwise, then the net price of any item in the Tender shall be the sum arrived at by adding to or deducting from the actual figure appearing in the Tender as the price of that item a similar percentage or proportion of the sum so added or deducted of the sum so added or deducted by the contractor the amount of any Prime Cost items and provisional sums of money shall be deducted from the total amount of the Tender. The expression “net rates” or “net prices” when used with reference to the contract or accounts shall be held to mean rates or prices so arrived at.

## 2. SCOPE OF WORK:

The work consists of carrying out Interior and Furnishing Works and HVAC, Electrical and Plumbing Works. It includes furnishing all materials, labour, tools and equipment and management necessary for and incidental to the construction and completion of the work. The contractor has to obtain statutory approvals required for commissioning of the systems i.e, Electrical Inspector of Govt. of Haryana and Central Electricity Authority.

## 3. CONTRACTOR’S RESPONSIBILITY

The Contractor shall carry out and complete the said work in every respect in accordance with this contract and with the directions of and to the satisfaction of Consultant /Bank. The Consultant may in his absolute discretion and in consultation with the Bank (with prior approval from the Bank) and from time to time issue drawings and/or written instruction, details directions and explanations which are hereafter collectively referred to as “Consultant /Bank’s Instruction”.

In regard to: -

- a. The variations or modifications of the design, quality or quantity of works or the additions or omission or substitution of any work.
- b. Any discrepancy in the drawings or between the schedule of quantities and/or drawings and or drawings and or specification.
- c. The removal from the site of any defective materials brought thereon by the contractor and the substitution of any other materials thereof.
- d. The removal and/or re-execution of any works executed by the contractor.
- e. The dismissal from the works of any person employed thereupon.
- f. The opening up for inspections of any work covered up.

- g. The amending and making good of any defects under clauses 19 hereof and those arising during the maintenance / defect liability period.

The contractor shall forthwith comply with and duly execute any work comprised in such Consultant /Bank instructions, provided always that the verbal instructions, directions, and explanations given to the contractor or his representative upon the works by the Consultant /Bank shall, if involving a variation, be confirmed in writing by the contractor within seven days, and if not dissented from in writing within a further seven days by the Consultant, such shall be deemed to be Consultant /Bank instructions within the scope of the Contract.

**4. VISIT TO SITE**

The contractor shall visit the site and make himself thoroughly acquainted with the local site condition, nature and requirements of the works, facilities of transport condition, effective labour and materials, access and storage for materials and removal of rubbish. The tenderer shall provide in their tender for cost of carriage, freight and other charges as also for any special difficulties and including police restriction for transport, etc. for proper execution of work as indicated in the drawings. The successful tenderer will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site condition which existed before the commencement of the work or which in the opinion of the Bank or Consultant might be deemed to have reasonably been inferred to be so existing before commencement of work.

**5. AGREEMENT**

The successful contractor is required to sign agreement as may be drawn up to suit local conditions and shall pay for all stamps and legal expenses, incidental thereto.

**6. PERMITS AND LICENSES**

The contractor will arrange permits and licenses for release of materials, which are under Government control. The Bank will render necessary assistance, sign any forms or applications that may be necessary.

The contractor shall at his own cost arrange for storage shed adequate for taking delivery and storing of the quantity of controlled materials released by the authorities or supplied by the Bank. The costs of storing, transporting, etc. of all materials including those under Government control are to be included by the tenderer in his quoted rates.

The Bank / Consultant shall be indemnified against all Government or legal actions for theft or misuse of any controlled materials in the custody of the contractor.

**7. GOVERNMENT AND LOCAL RULES**

The contractor shall conform to the provisions of all local Bye-laws and Acts relating to the work and to the Regulations etc. of the Government and Local Authorities and of any company with whose system the structure is proposed to be connected. The contractor shall give all notices required by said Act, Rules, Regulations and Bye-laws, etc. and pay all fees payable to such authority / authorities for execution of the work involved. The cost, if

any, shall be deemed to have been included in his quoted rates, taking into account all liabilities for license, fees for footpath encroachment and restorations etc. and shall indemnify the Bank against such liabilities and shall defend all actions arising from such claims or liabilities.

**8. QUANTITY OF WORK TO BE EXECUTED**

The quantities shown in the schedule of quantities are intended to cover the entire new structure indicated in the drawings but the Bank reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore.

**9. VARIATIONS TO BE APPROVED BY THE BANK / CONSULTANT**

Notwithstanding anything herein contained, the Consultant or his representative shall not, without prior concurrence in writing of the Bank, issue any instructions, verbal or in writing, the Consultant can get the work done upto an amount of Rs.1,00,000.00 (Rupees One Lac only) and all instruction issued to the contractor should forthwith be brought to the notice of the Bank. The contractor shall submit through the Consultant, a statement of variations giving rise quantity and rates duly supported by analysis of rates, vouchers, etc. The rates on scrutiny and final acceptance by the Bank shall form a supplementary tender. The Bank shall not be liable for payment of such variations until these statements are sanctioned by the bank.

**10. DRAWINGS AND SCHEDULE OF QUANTITIES AND AGREEMENT.**

The contractor on the signing hereof shall be furnished by the Consultant free of cost one copy of each of the said drawings and of the specifications and one copy of all further Drawings issued during the progress of the works. Any further copies of such drawings required by the contractor shall be paid by him. The contractor shall keep one copy of all drawings on the works and the Consultant / Bank or their representatives shall at all reasonable times have access to the same.

**11. CONTRACTOR TO PROVIDE EVERYTHING NECESSARY:**

The contractor shall provide everything necessary for the proper execution of the works according to the intent and meaning of the Drawings, Schedule of quantities and Specification taken together whether the same may or may not be particularly shown or described therein provided that the same can be reasonably be inferred there from, and if the contractor finds any discrepancies therein, he shall immediately and in writings, refer the same to the Bank / Consultant whose decision shall be final and binding. The contractor shall provide himself for ground and fresh water for carrying out of the works at his own cost. The Bank shall on account be responsible for the expenses incurred by the contractor for hired ground or fresh water obtained from elsewhere.

- (i) The rates quoted against individual items will be inclusive of everything necessary to complete the said items work within the contemplation of the contract, and beyond the unit price no extra payment will be allowed for incidental or contingent work, labour and /or materials inclusive of all taxes and duties whatsoever except for specific items, if any, stipulated in the tender documents.

- (ii) The contractor shall supply, fix and maintain at his own cost, for the execution of any work, all tools, tackles, machineries and equipments and all the necessary centering, scaffolding, staging, planking, timbering, strutting, shoring, pumping, fencing, boarding, watching and lighting by night as well as by day required not only for the proper execution and protection of the said work but also for the protection of the public and safety of any adjacent roads, streets, walls, houses, buildings, all other erections, matters and things and the contractor shall take down and remove any or all such centering, scaffolding, plumbing, timbering, strutting, shoring etc., as occasion shall be required or when ordered so to do, and shall fully reinstate and make good all matters and things disturbed during the execution or when ordered so to do, and shall fully reinstate and make good all matters and things disturbed during the execution of works to the satisfaction of the Bank / Consultant.
- (iii) The Contractor shall also provide such temporary road on the site as may be necessary for the proper performance of the contract, and for his own convenience but not otherwise. Upon completion, such roads shall be broken up and leveled where so required by the drawings unless the Bank shall otherwise direct.
- (iv) The contractor shall at all times give access to workers employed by the Bank or any men employed on the buildings and to provide such parties with proper sufficient and if required, special scaffolding, hoists and ladders and provide them with water and lighting and leave or make any holes, grooves etc., in any work, where directed by the Bank as any be required to enable such workman to lay or fix pipes, electrical wiring, special fittings etc. The quoted rates of the tenderers shall accordingly include all these above-mentioned contingent works.

## 12. AUTHORITIES NOTICES AND PATENTS

The contractor shall confirm to the provisions of any Act of the legislature relating to the works, and to regulations and bye-laws of any authority, and or any water electric supply and other companies and /or authorities with and whose the systems the structures is proposed to be connected, and shall, before making any variations from the drawing or specifications that may be associated to so confirming, give to the Architect written notice, specifying the variations proposed to be made and the reason for making it and apply for instructions thereon. In case the contractor shall not within ten days receive such instructions he shall proceed with the work confirming to the provisions, regulations, or byelaws in questions, and variations so necessitated shall be dealt with under clause 13 hereof.

The contractor shall bring to the attention of the Consultant / bank all notices required by the said Acts, regulations or bye-law to be given to any authority and pay to such authority, or to any public office, all fees that may be properly chargeable in respect of the said work, and lodge the receipt with the Consultant / Bank.

The contractor shall indemnify the Bank against all claims in respect of patent rights, royalties, damages to buildings, roads or members of public in course of execution of work and shall defend all actions arising from such



claims and shall keep the Bank saved harmless and indemnified in all respects from such actions, costs and expenses.

**13. CLEARING SITE AND SETTING OUT WORKS**

The site shall be cleared of all obstructions, loose stone, and material rubbish of all kind. All holes or hollows either originally existing or produced by removal of loose stone or material shall be carefully filled up with earth, well rammed and leveled of as directed at his own cost. The contractor shall set out the works and shall be responsible for the true and perfect setting out of the work and for the correctness of the positions, dimensions, levels and the alignment of all the parts thereof. If at any time any error in this respect shall appear during the progress of any part of work or within the period of one year from the completion of the works, the contractor shall at his own expenses rectify such error to the satisfaction of the Consultant / Bank.

**14. DATUM**

The average ground level will be considered as the crown of the nearest road, which should be taken as “Datum” which is however, subject to final confirmation by the Bank / Consultant. All levels shown in the drawings are to be strictly adhered to.

**16. BENCHES**

The contractor is to construct and maintain proper benches of all the main walls, in order that the lines and levels may be accurately checked at all times.

These benches will consist of salwood post of adequate length and minimum diameter 75mm to be driven in the ground at suitable distance as directed encased with brickwork. The wire nails will be driven on the top of salwood post on the center lines of columns, walls, inside and outside faces of foundation trenches, in order that lines may be stretched between the benches and accurate intersection of excavation. Centre line of walls, columns, etc. may be clearly indicated and checked at any time if it is so required.

**17. CONTRACTOR IMMEDIATELY TO REMOVE ALL OFFENSIVE MATTERS**

All soil, filth or other matters of any offensive nature taken out of any trench, sewer, drain, cesspool or other place shall not be deposited on the surface but shall be at once carted away by the contractor to place provided by him.

The contractor shall keep the foundations and works free from water and shall provide and maintain at his own expenses electrically or other power driven pumps and other plant to the satisfaction of the Bank for the purpose, until the building is handed over to the Bank. The contractor shall arrange for the disposal of the water so accumulated to the satisfaction of the Bank and local authority and no claims will be entertained afterwards if he does not include in his rates for the purpose.

**18. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS:**

All the works specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and most workman like manner with materials of the best and approved quality of the respective kinds in accordance with the particulars contained in and implied by the specifications and represented by the drawings or according to such other additional particulars and instructions as may from time to time be given by the Bank / Consultant during the execution of the work, and to his entire satisfaction.

The contractor shall have to carry out test on materials and workmanship in approved materials testing laboratories or as prescribed by the Bank / Consultant at own cost to prove the materials quality and test sample, confirm to the relevant I.S. Standard or as specified in the specifications. The necessary charges for preparation of mould (in case of concrete cube) transporting testing etc. shall have to borne by the contractors. No extra payment on this account should in any case be entertained.

All the materials (except where otherwise described) store and equipment required for the full performance of the work under the contract must be provided through normal channels and must include charges for import duties, sales tax, octroi and other charges and must be the best of their kind available and the contractors/must be entirely responsible for the proper and efficient carrying out the work. The work must be done in the best workman like manner. Samples of all materials to be used must be submitted to the Bank / Consultant when so directed by the Engineer/ Consultant and written approval from Bank / Consultant must be obtained prior to placement of order.

The Contractor shall set up a field laboratory with necessary equipment for day-to-day testing of material like sand, brick, aggregate etc.

**19. INCLEMENT WEATHER**

During the inclement weather the contractor shall suspend concreting and plastering for such time as the Bank / consultant may direct and shall protect from injury all work when in course of execution. Any damage (during construction) to any part of the work for reasons due to rain, storm, or neglect of contractor shall be rectified by the contractor in an approved manner at no extra cost.

Should the work be suspended by reason of rain, strike, lockouts or any other cause, the contractor shall take all precautions necessary for the protection of work and at his own expenses shall make good any damage arising from any of these causes. The contractor shall cover up and protect from damage, from any cause, all new work and supply all temporary doors, protection to window, and any other requisite protection for the execution of the work whether by himself or special tradesmen or sub-contractor and any damage caused must be made good by the contractor at his own expenses.

**20. MATERIALS AND WORKMANSHIP TO CONFORM TO DESCRIPTIONS:**

All materials and workmanship shall so far as procurable be of the respective kinds described in the schedule of quantities and / or specifications and in accordance with the Consultant's instructions, and the contractor shall upon the request of the Consultant furnish him with all invoices, accounts, receipts and other vouchers to prove that the materials comply therewith. The contractor shall at his own cost arrange for and / or carry out any test of any materials which the architects may require.

**21. CONTRACTOR'S SUPERINTENDENCE & REPRESENTATIVE ON THE WORKS.**

The contractor shall give all the necessary personal superintendence during the execution of the works, and as long thereafter as the Bank / Consultant may consider necessary until the expiration of the defects liability period stated in the Appendix hereto. The contractor shall also during the whole time the works are in progress employ;

a) an experienced qualified Electrical Engineer as required who shall be in constantly attendance at work while the men are at work. Any directions, explanations, instructions, or notices given by the Bank / Consultant to such representative shall be held to be given to the contractor.

For non-compliance an amount of Rs.20,000/- pm / per Engineer shall be deducted from the contractor for the period required engineers are not provided. However, deduction of payment shall not exonerate contractor for his responsibility for executing quality work.

**22. DEPLOYMENT OF LABOURS**

No labourers below the age of eighteen years shall be employed on the work.

Any labourers supplied by the contractor to be engaged on the work on day-work basis either wholly or partly under the direct order or control of the Bank or his representative shall be deemed to be a person employed by the contractor.

The contractor shall comply with the provisions of all labour legislation including the requirement of

- |    |  |
|----|--|
| a) | The payment of Wages Act   |
| b) | Workmen's Compensation Act   |
| c) | Contract Labour (Regulation & Abolition) Act, 1970 and Central Rules 1971. |

**23. FACILITIES TO BE PROVIDED TO WORKERS**

The contractor shall comply at his own cost with the order of requirement of any Health Officer of the State or any local authority or of the Bank regarding the maintenance of proper environmental sanitation of the area where the contractor's labourers are housed or accommodated, for the prevention of small pox, cholera, plague, typhoid, malaria and other contagious diseases. The contractor shall provide, maintain and keep in good sanitary condition adequate sanitary accommodation and provide facilities for pure drinking water at all times for the use of men engaged on the works and shall remove and clear away the same on completion of the

works. Adequate precautions shall be taken by the contractor to prevent nuisance of any kind on the works or the lands adjoining the same.

The contractor shall arrange to provide first-aid treatment to the labourers engaged on the works. He shall within 24 hours of the occurrence of any accident at or about the site or in connection with execution of the works, report such accident to the Bank and also the competent authority where such report is required by law.

**24. DISMISSAL OF WORKMEN**

The contractor shall at the request of the Bank / Consultant immediately dismiss from the works, any person employed thereon by him who may in the opinion of the Bank / Consultant incompetent or misconduct himself and such person shall not be engaged again. Such discharges shall not be the basis of any claim for compensation or damages against the Bank or any of their officer or employee.

**25. ACCESS TO WORK**

The Bank / Consultant and their responsible representative shall at all reasonable times have free access to the works and/ or to the workshops, factories or other places where materials are being prepared or constructed for the work and also to any place where the materials are lying or from where they are being obtained the contractor shall give every facility to the Bank, the Consultant and their representative necessary for inspection and examination and test of the materials and the workmanship. No. Persons not authorised by the Bank or the Consultant except the representatives of Public Authorities shall be allowed on the works at any time.

**26. ASSIGNMENT / SUB-LETTING**

The whole of the works included in the contract shall be executed by the contractor and the contractor shall not directly or indirectly transfer, assign, or under-let the contract or any part share there of or any interest therein without the prior written consent of the Bank and no undertaking shall relieve the contractor of the full and entire responsibility of the contract or from active superintendence of works during their progress. Central Govt. / State Govt. companies shall not be allowed to sublet the work on back-to-back basis / labour basis without approval from the Bank. In case, in case contractor sub-let the work, the bank will be entitled to deduct 10% of cost of work executed besides initiating other measures provided in the contract.

**27. VARIATIONS**

No alterations, omissions or variations shall vitiate this contract, but in case the Architect thinks proper at any time during, the progress of the works to make any alterations in, or additions to or omissions from, the work or any alteration in the kind or quality of materials to be use therein and shall give notice thereof in writing under his hand to the contractor, the contractor shall alter, add to, or omit from, as the case may be, in accordance with such notice, but the contractor shall not do any work extra to or make any alterations or additions to or omissions from the works or any deviations from any of the provisions of the contract, stipulation specifications or contract drawings without the previous consent in writing of the consultant /Architect / bank and the values of such extras, alternations, additions or

omissions shall in all cases be determined by the Consultant with the prior approval in writing of the Bank in accordance with the provision of the Clause hereof, and the same shall be added to, or deducted from the contract amount, as the case may be accordingly.

## **28. SCHEDULE OF QUANTITIES**

The Schedule of quantities, unless otherwise stated shall be deemed to have been prepared in accordance with the standard method of quantity measurement.

Any error in description or in quantity or in omission of items from the Schedule of quantities shall not vitiate this contract but shall be rectified and the value thereof shall be added to or deducted, from the contract amount (as the case may be), provided that no rectification of errors, if any, shall be allowed in the contractor's Schedule of rates.

The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of this tender for the works and the prices stated in the Schedule of quantities and or the schedule of rates and prices which rates and prices shall cover all his obligations under the contract and all matters and things necessary for the proper completion of works.

The quantities of work may vary to any extent or may be omitted, the contractor cannot claim loss of profit / overhead on this account.

## **29. MEASUREMENT OF WORKS**

- (i) The Consultant may from time to time intimate to the contractor and the Bank that he requires works to be measured, and the contractor shall forthwith attend or send a qualified agent to assist the Consultant in taking such measurements and calculations and to furnish all the particulars or to give all assistance required by any of them.
- (ii) The Engineer will take measurement of the work jointly with the contractor and enter the same in measurement books. Based on these measurements the contractor will raise the bill as per the prescribed format. Consultant to verify the bill/measurement and issue certificate stating that the work completed is as per the specifications and the measurement claimed for the works, are actually executed at site. This certificate shall be issued within 7 days after bill submission by the Contractor. The bank to release bill amount within 10 days. If for some reason checking of the bill / measurement is not completed, 75% of the bill amount at least shall be released within 10 days and the balance within 30 days.
- (iii) Should the contractor not attend or neglect or omit to send such agent then the measurement taken by the Architect or a person approved by him shall be final and binding on the contractors.
- (iv) The contractor or his also supply without charge the requisite number of persons with means and materials necessary for the purpose of measurements or examinations at any time and from time to time of the work or counting weighting of the materials, etc.

- (v) All authorized extra works, omissions and all variations made without the Consultant's knowledge, if subsequently sanctioned by him in writing (with the prior approval in writing of the Bank) shall be included in such measurement.
- (vi) Measurements shall be recorded as per IS 1200 mode measurement and in metric system. Measurement shall be recorded in 100 pages bounded measurement book to be supplied by Union Bank of India. Such measurement shall be recorded by the Engineer or Bank's officer and not by contractor. M.B. shall be kept in the custody of the consultant / Bank.

### 30. PROCEDURE FOR MEASUREMENT AND BILLING OF WORK IN PROGRESS:

#### a. Advance against materials brought at Site:

Contractor may be allowed Secured advance on security for materials brought to site for execution on contracted item of work to the extent of 75% of the value of the materials provided that the materials of the imperishable nature is safeguarded against losses due to the contractor postponing execution of the work or to the storage or misuse the materials and against the expenses entitled for their proper watch and safe custody. Recoveries of advances so made would be from running bills. The secured advance may be given against the following materials brought to the site and stored properly.

- i) Cables, wires, electrical fixtures, switches and non-perishable material as decided by the Bank/Consultant.

The Contractors will have to submit the bills for the materials purchased, in triplicate, to verify the cost of the materials purchased and brought at Site.

No advances against perishable materials purchased and brought at Site will be made.

The Contractors will have to keep the materials at Site under their safe custody and at their risk and cost.

The Bank is not responsible for damages and losses of such materials brought at site.

The contractor to submit undertaking marking lien on the material brought at site against which bank has granted advance payment.

#### b. Running Account Payments to be regarded as Advances:

All running account payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and accepted and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the contract, or any part thereof, in this respect, or the accruing of any claim, nor shall it conclude, determine or effect in any way the powers of the bank / consultant under these conditions or any of them as to the powers of the bank / consultant under these conditions or any of them as to the final settlement and adjustment

of the accounts or otherwise, or in any other way vary/affect the contract. The final bill shall be submitted by the contractor within two months of the date fixed for completion of the work, other wise the Consultant / Engineer-in-charge's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on all parties.

### 31. COMPLETION CERTIFICATE

#### (i) APPLICATION FOR COMPLETION CERTIFICATE

The Consultant /Engineer-In-Charge shall normally issue to the contractor the completion certificate within one month after receiving, an application thereof from the contractor and after verifying from the completion documents and satisfying himself that the work has been completed in accordance with and as set out in the construction and erection drawing and contract documents.

The contractor, after obtaining the completion certificate, is eligible to present the final bill for the work executed by him under the terms of contract.

#### (ii) Completion Certificate

Within one month of the completion of the work in all respects, the Contractor shall be furnished with a certificate by the Consultant / Engineer-In-Charge of such completion but no certificate shall be given nor shall the work be deemed to have been completed until all scaffolding, surplus materials and rubbish is cleared of the site completely. The work will not be considered as complete and taken over by the Bank, until all the temporary works, labour and staff colonies etc., constructed, are removed and the works site cleared to the satisfaction of the Consultant / Engineer.

If the Contractor shall fail to comply with the requirements of this clause on or before the date fixed for the completion of the work, the Consultant / Engineer-In-Charge may at the expenses of the contractor remove such scaffolding, surplus materials and rubbish and dispose off the same as he thinks fit and clean up the site and the contractor shall forthwith pay the employer for all expenses so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except of any sum actually realized by the sale thereof.

#### (iii) CERTIFICATE (to be issued by the consultant / engineer)

It is certified that various items of works claimed in the .....  
RA Bill by Contractor .....has been completed to the extent claimed and at appropriate rates and that the items are in accordance with and fully confirming to he standard and/or prescribed specifications and drawings. Quality and rates verified. The material supplied and work done conform tender specifications. We further certify that we have checked the measurement to the extent of 100 per cent of each item claimed in this

bill. As net amount of Rs..... (Rupees. \_\_\_\_\_) is recommended to be paid to the contractor making the total upto date payment of Rs.....

(Rs. ....)

Quality and rates verified. The material supplied and work done confirm with the tender specifications.

**DATE: SITE ENGINEER / CONSULTANT**

The above certification shall be endorsed in the relevant Measurement Books also by the Consultant.

**iv. FORMAT FOR RUNNING BILL**

**ON LETTER HEAD OF CONTRACTOR**

Running Bill No. ....

Tender Amount Rs. ....

Value of work done Rs. ....

Less rebate ( - ) Rs. ....

Net Value of work done Rs. ....

Extra variation items after settlement @100% Rs. ....

Extra variation items without settlement @75% Rs. ....

Total  
Add : Cost of material on site @ 75% Rs. ....

Total payable Rs. ....

**Deductions**

1. Retention money Rs. ....

2. Recovery of advance if any Rs. ....

3. Income-tax Rs. ....

4. Any other Rs. ....

5. Total bill paid till last bill Rs. ....

Total deductions Rs. ....



Net payable Rs. ....

Amount certified for payment Rs. ....

**Note:** This page shall be signed and stamped by the Site Engineer, Contractor and Project Architect.

**v. FORMAT FOR RUNNING BILL (To be submitted by the contractor)**

I	Name of the Contractor / Agency	:	
II	Name of the Work	:	
III	Sr.No. of the Bill	:	
IV	Sr.No. of the Previous Bill	:	
V	Reference to Agreement No.	:	
VI	Date of written order to commence	:	
VII	Date of Completion as per Agreement	:	
VIII	Date of Measurements	:	
XI	Present status of work	:	

Sno.	Items Description	Unit	Rate	Qty. as per measurement	Tender Amount Rs.
1	2	3	4	5	6

Up to previous RA Bill		Up to date gross		Present bill		Remark
Qty	Amt.	Qty.	Amt.	Qty.	Amt.	
7	8	9	10	11	12	13

**Note:**

- If part rate is allowed for any item, it should be indicated with reasons for the allowing such a rate.
- If adhoc payment is made, it should be mentioned specially.

**32. ENGINEER**

The Site Engineer or any representative of the Architect / Consultant, or the Bank shall have power to give notice to the contractor or to his representative, of non-approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of the Architect is obtained. The work will be from time to time be examined by the Architect / the Bank's Engineer or the Architect's representative, but such examination shall not in any way exonerate the contractor from the obligations to remedy any defects which may be found to exist at any stage of the works or after the same is complete. Subject to the limitations of this clause, the contractor shall take instructions only from the Architect / Bank.

### **33. DUTIES OF ENGINEER**

1. To make a thorough study of contract documents, Architectural/Structural drawings and other details so as to bring out ambiguities/discrepancies between them and to obtain clarification from the Competent Authority well in time to avoid delays.
2. To render a certificate to the Competent Authority to the effect that he has studied the contract documents, drawings and specifications.
3. To approve the centerline layout of building pegged out on site by the contractor and the benches for ground floor and other levels.
4. To take charge of objects of value and antiquity found on site or in excavations, immediately, after their discovery, to hold them in safe custody and to hand them over to the Competent Authority of the Bank for further action.
5. To approve the foundation strata when the appropriate depth of excavation is reached in consultation with the architects.
6. To ensure that the quality of materials and workmanship as laid down in the contract is maintained and the accuracy of dimension shown on drawings is attained in the construction.
7. To watch the validity of the building permission issued by the Local Authority and to ensure that the revalidation, if necessary, is obtained well in time.
8. To arrange periodical reconciliation of cement and steel account and ensure that proper recoveries are affected from contractor's running account bills.
9. To maintain the under noted records at the site of work, in addition to normal routine requirements of an office:
  - a. Daily Progress Record
  - b. Work Site Order Book.
  - c. Instruction by Bank's Officers.
  - d. Cement Statement (Receipt/Consumption/Balance).
  - e. Steel Register/any other costly Material Register.
  - f. Contract Pour Reports including Slump Test Record.
  - g. Concrete Cube Test Register.

- h. Test Registers of other materials/fittings, fixtures, and equipments as stipulated in the tender.
- i. Register of Drawings and Working Details.
- j. Log Book of Defects.
- k. The Site Engineer should maintain in a Hindrance Register giving details of commencement and removal of each hindrance.
- l. Dismantled Materials Account Register.
- m. Supply and consumption register of scarce/costly materials like bitumen, lead, laminates, special paints etc.
- n. Record of cement used/received: Day to day record of cement used/received shall be entered in the register and signed by the Site Engineer of the Bank as well as contractors representative at site.
- o. Record of reinforcement bars received at site: Necessary entry for reinforcement bars of each category shall be made in the register for steel and signed by the site engineer of Bank and the contractor daily.
- p. To study the quality of approved coarse and fine aggregate and get the design of the concrete mixes in accordance with modern practice. The Site Engineer shall ensure that the mix design for RCC work shall be carried out by the Architect/Structural Consultant, if applicable.
- q. To record measurements of completed work jointly with the Contractor and to process them in running account bills.
- r. To receive running account bills from the contractor and to forward them after checking, to the Competent Authority with his comments and recommendations and accompanied by all supporting documents.
- s. To submit to the Competent Authority the Progress Report fortnightly.
- 10. To watch that the concerned contract does not lapse for want of extension of time. Therefore, to keep it alive and in operation from point of consideration that “Time is the essence of contract”.
- 11. To ensure that progress on every contract is in accordance with the appropriate stage of its Time and Progress Chart.
- 12. To prevent contractor from proceeding with any work on which the contractor has got intentions of raising claims of extra/deviated items, until the Competent Authority approves the work to continue.
- 13. To receive the Final Bill from the contractor, to check it, and forward it with his comments and recommendations to the Competent Authority with all the supporting documents duly attached.
- 14. To submit the final summary of costs for the project to the Competent Authority.
- 15. To submit the Competent Authority authentic information on and the under noted records pertaining to the completed work in order to enable the Competent Authority to finalise them in the due course:

- a) Record i.e. as completed drawings.
- b) Record of Standard Measurements for periodical services.
- c) Inventory of fittings and fixtures.

To hand over to the Competent Authority a “first draft” of “A Note of Comprehensive Information to the User” containing detailed instructions on how to use and maintain the completed building to the best advantage of the Bank.

#### **34. PRICES FOR EXTRAS ETC. ASCERTAINMENT OF NON-TENDER ITEMS**

The contractor may, when authorized, and shall, when directed in written by the Architect / Consultant with the approval of the Bank, add to, omit from, or vary the works shown upon the drawings, or described in the specification or included in the schedule of quantities, but contractor shall make no addition, omission or variation without such authorization or direction. A verbal authority or direction by the Architect / Consultant shall, if confirmed by them in written seven days, be deemed to have been given in writing.

Any such extra is herein referred to as authorized extra and shall be made in accordance with the following provisions.

- (a) (i) The net rates or prices in the original tender shall determine the valuations of the extra tender shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced therein.  
(ii) Rates for all items, wherever possible, should be derived out of the rates given in the priced schedule of quantities.
- b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions vary the conditions under which any remaining items of works are carried out, the prices for the same shall be valued under sub-clause C hereof.
- (c) Where the extra works are not of similar character and /or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items of works are carried out or if the amount of the whole of the contract works or to any part thereof shall be such that in the opinion of the Architect the net rate or price contained in the priced schedule of quantities or tender or for any item of the works involves loss or expense beyond that reasonably contemplated by the contractor or is by reason unreasonable or inapplicable, the Architect shall fix such other rate or price as in the circumstances he shall feel reasonable and proper, with the prior approval in writing of the employer.
- (d) Where extra work cannot be properly measured or valued the contractor shall be allowed days work prices as the priced schedule of quantities or, if not so stated, then in accordance with the local day work rates and wages for the district; provided that in either case vouchers specifying the daily time (and if required by the Architect, the workman’s name) and materials employed to be delivered for verification to the Architect, or his

representative at to the Architect or his representative at or before the end of the week following that in which the work has been executed.

Actual cost of materials	..... Rs.
Add for Labour charges	..... Rs.
Add for Taxes, Transportation, If any.	..... Rs.
Add for Wastage of Materials (Upper Limit 5% wherever applicable)	..... Rs.
Add for water and electricity Charges if any Required, upper limit 2% of basic cost of materials.	Rs.
Add for 10% towards contractor's overheads and profit	Rs.
Final rate arrived.	Rs

**35. UNFIXED MATERIALS WHEN TAKEN INTO ACCOUNT TO BE THE PROPERTY OF THE BANK**

Where in any certificate (of which the contractor has received payment), the Architect has included the value of any unfixed materials intended for and /or placed on adjacent to the works, such materials shall become the property of the Bank and they shall not be removed except for use upon the works, without the written authority of the Architect/Bank. The contractor shall be liable for any loss of or damages to such materials.

**36. REMOVAL OF IMPROPER WORKS**

The Architect/Bank shall, during the progress of the works, have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in order, of any materials which in the opinion of the Architect/Bank are not in accordance with the specifications or the instructions, the substitution of proper materials, the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specification instruction and the contractor shall forthwith carry out such order at his own cost. In case of default on the part of the contractor to carry such order, the Bank shall have the power to employ and pay other persons to carry out the same and all expenses consequent thereon, or incidental thereto, shall be deducted by the Bank from any money due or that may become due, to the contractor.

No certificate, which may have been issued by the Architect, shall relieve the contractor from his liability in respect of unsound work of bad materials.

**37. DEFECTS AFTER COMPLETION**

The contractor shall make good at his own cost and to the satisfactions of the Bank all defects, shrinkage, settlements or other faults, which may appear within 12 months after completion of the work. In default the Bank may employ and pay other persons to amend and make good such damages, losses and expenses consequent thereon or incidental there to shall be made good and borne by the contractor and such damages, loss and expenses shall be recoverable from him by the Bank or may be deducted by

the Bank, in lieu of such amending and making good by the contractor, deduct from any amount due to the contractor, a sum equivalent to the cost of amending such work and in the event of the amount retained being insufficient, recover that from the contractor from the amount retained as retention money together with any expenses the Bank may have incurred in connection therewith.

**38. CONCEALED WORK:**

The contractor shall give due notice to the Bank / architects whenever any work is to be buried in the earth, concrete or in the bodies of walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions taken before such burial, in default whereof the same shall, at the opinion of the Bank / architect be either opened up for measurement at the contractor's expense or no payment may be made for such materials. Should any dispute or differences arise after the execution of any work as to measurements etc., or other matters which cannot be conveniently tested or checked, the notes of the employer / architects shall be accepted as correct and binding on the contractor.

**39. CERTIFICATE OF VIRTUAL COMPLETION & DEFECTS LIABILITY PERIOD**

The work shall not be considered as completed until the architect has certified in writing that they have been virtually completed. The defects Liability Period shall commence from the date indicated in the virtual completion certificate issued by the Architect.

**40. NOMINATED SUB-CONTRACTORS**

All specialist, Merchants, Tradesmen and others executing any work of supplying and fixing any goods for which prime cost prices or provisional sums are included in the Schedule of Quantities and/or Specifications who may be nominated or selected by the Architect/ Bank are hereby declared to be Sub-Contractors employed by the Contractors and are herein referred to as nominated Sub-Contractors.

No nominated Sub-Contractor shall be employed on or in connection with the works against whom the Contractor shall make reasonable objection or (save where the Architect and Contractor shall otherwise agree) who will not enter into a Contract providing: -

- a. That the nominated Sub-Contractor shall indemnify the Contractor against the same obligations in respect of the Sub-Contract as the Contractor is under in respect of this contract.
- b. That the nominated Sub-Contractor shall indemnify the Contractor against claims in respect of any negligence by the Sub-Contractor, his servants or agents or any misuse by him or them of any scaffolding or other plant, the property of the Contractor or under any workmen's Compensation Act in force.
- c. Payment shall be made to the nominated Sub-Contractor within fourteen days of his receipt of the Architect's Certificates provided that before any certificate is issued, the contractor shall upon request furnish to the architect proof that all nominated Sub-Contractor's accounts included in

the previous Certificate have been duly discharged; in default whereof the Employer may pay the same upon a Certificate or the Architect and deduct the amount thereof from any sums due to the Contractor. The exercise of this power shall not create privacy of Contract as between Employer and Sub-Contractor.

**41. OTHER PERSONS ENGAGED BY THE BANK**

The Bank reserves the right to execute any part of the work included in this contract by other agency or persons and contractor shall allow all reasonable facilities and use of his scaffolding for the execution of such work. The main contractor shall extend all co-operations in this regard.

**42. INSURANCE**

**a. IN RESPECT OF DAMAGE TO PERSONS AND PROPERTY**

- (i) The contractor shall be responsible for all injury to the work or to persons, animals or things, and for all damages to the structural and / or decorative part of the property which may arise from the operation or neglect of himself or of any nominated sub-contractor or any of his / sub-contractor's employee, whether such damage/ injury arises from carelessness, accident or any other cause whatsoever in any way connected in the carrying out of this contract. This clause shall be held to include inter alias, any damage to buildings, whether immediately adjacent or otherwise, and any damage to the roads, streets, foot-paths, bridge or ways as well as damage caused to the building and work forming the subject of this contract by rain, wind or other inclement of the weather. The contractor shall indemnify the Bank and hold it harmless in respect of all and any expense arising from such injury or damage to persons or property as aforesaid and also in respect of any claim made in respect of injury and damage under any Act of any Legislature or otherwise and also in respect of any award of compensation or damage consequent upon such claims.
- (ii) The contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver up the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to the property or third parties.
- (iii) The contractor shall indemnify the Bank against all claims which may be made against the Bank by any member of the Public or third party in respect of any thing which may arise in respect of the works or in consequence thereof and shall at his own expense arrange to effect and maintain, until the virtual completion of the contract, with an approved office, a Policy of Insurance in the name of the Bank and the contractor against such risks and deposit such policies with the Bank from time to time during the currency of this contract. The contractor will also similarly indemnify the Bank of all claims which may be made upon the Bank whether under the Workmen's Compensation Act or any other statute in force during the currency of this contract or at common law in respect of any employee of the contractor or any sub-contractor and shall at his own expense effect and maintain, until the virtual completion of the contract, with an approved office, a Policy of Insurance in the joint name of the Bank and the Contractor against such risks and deposit such policy or policies with the Bank from time to time during the currency of the contract.

- (iv) The contractor shall be responsible for any liability which may be excluded from the Insurance Policies above referred to and also for all other damages to any person animal or property arising out of incidental or defective carry in out of this contract. He shall also indemnify the Bank in respect of any cost, charges or expenses arising out of claims or proceeding and also in respect of any award of composition and damages arising there from.
- (v) The Bank shall be entitled to deduct the amount of any damage, compensation, cost, charges and expenses arising from or accruing from, or in respect of, any such claims or damage from any or all sums due or to become due to the contractor without prejudice to the Bank's other rights in respect thereof.
- b. FIRE INSURANCE**
- (i) The Contractor shall, within fourteen days from the date of commencement of works, insure the works at his cost and keep them insured until the virtual completion of the contract, against loss or damage by fire and / or earthquake, flood with an office to be approved by the Architect in the joint name of the Bank and the Contractor (the name of the former being placed first in the policy), for the contract amount only. The Contractor shall deposit the policy and receipts for the premium with the owner within 21days from the date of issue of work order, unless otherwise instructed by commencement of the works, unless otherwise instructed by the Architect. In default of the Contractor insuring as provided above, the Bank or the Architect on his behalf, may so insure the works and may deduct the premium paid from any money due or which may become due to the Contractor without prejudice to the other rights of the Bank in respect of such default. In case it becomes necessary to suspend the works, the Contractor shall as soon as the claim under the policy is settled, or work reinstated by the Insurance office should they elect to do so, proceed with all due diligence with the completion of the works in the same manner as though the incident had not occurred and in all respects under the same conditions of the Contract. The contractor in case of rebuilding or reinstatement after fire, shall be entitled to such extension of time for completion as the Bank / Architect deemed fit.
- (ii) The amount so due as aforesaid shall be the total value of the works duly executed and of the contract materials and goods delivered upon the site for use in works upto and including a date not more than seven days prior to the date of the said Certificate less the amount to be retained by the Employer (as hereinafter provided) and less any installments previously paid under this clause. Provided that such Certificate shall only include the value of the said materials and goods as and from time to time as they are reasonably, properly and not prematurely brought upon the site and then only if properly stored and/or protected against weather.
- c) The Contractors will have to take out following Insurance Policies:  
Contractors All Risks Insurance Policy to cover-  
Earthquake- Fire & Shock  
Landslide/Rockslide/Subsidence.  
Flood/Inundations.  
Storm/Tempest/Hurricanes/Typhoon /Cyclone Collapse.



Theft/Burglary.

Damage to material brought at Site and to be subsequently used in the work.

Third party Insurance Policy

- a. For accidental loss or damage caused to the property of other persons.
- b. For fatal or non-fatal injury to any person other than insured own employees or work men of employees of the owner of the works any other construction work thereon, or member of the Insured's family or of any of the aforesaid; directly consequent upon of solely due to the construction of any property described in the Schedule.

3) Workmen's Compensation Insurance.

**43. ACCOUNTS RECEIPTS & VOUCHERS:**

The contractor shall, upon the request of the employer furnish them with all the invoices, accounts, receipts and other vouchers that they may require in connection with the works under this contract. If the contractor shall use materials less than what he is required under the contract, the value of the difference in the quantity of the material he was required to use and that he actually used shall be deducted from his dues. The decision of the Bank shall be final and binding on the contractor as to the amount of materials the contractor is required to use for any work under this contract.

**44. LIQUIDATED DAMAGES / DAMAGES FOR NON-COMPLETION**

If the Contractor fails to complete the works by the date stated in the Appendix or within any extended time and the Architect certifies in writing that in his opinion, the same ought reasonably to have been completed, the Contractor shall pay the Bank liquidated damages @ 1% of the contract amount per week of delay subject to maximum deduction of 10% of the contract amount.

**45. TOOLS, STORAGE OF MATERIALS, PROTECTIVE WORKS AND SITE OFFICE REQUIREMENTS**

- i) The contractor shall provide, fix up and maintain in an approved position proper office accommodation for the contractor's representative and staff which offices shall be open at all reasonable hours to receive instruction notices or communications and clear away on completion of the works and make good all work disturbed.
- ii) All drawings maintained on the site are to be carefully mounted on Boards of appropriate size and covered with a coat of approved varnish. They are to be protected from ravages of termites, ants and other insects.
- iii) The contractor shall provide at his own cost all-artificial light required for the work and to enable other contractors and sub-contractors to complete the work within the specified time.
- iv) The contractor shall provide a suitable temporary hut for the watchmen and clear away the same when no longer required and to provide all necessary attendance, lights, etc. required.
- v) The contractor shall arrange for temporary latrines for the use of workers and field staff and keep the same in a clean and sanitary condition to the

- satisfaction of the Public Health Authorities and shall cause such latrines and soil to be cleared away whenever necessary and shall make good all the works disturbed by these conveniences,.
- vi) Every precaution shall be taken by the contractor to prevent the breeding of mosquitoes on the works during the construction and all receptacles, cisterns, water tans, etc., used for the storage of water must be suitably protected against breeding of mosquitoes. The contractor shall indemnify the Employer against any breach of rules in respect of anti-malarial measures.
- vii) The contractor shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed in or upon any boarding, gantry, building structure other than those approved by the Bank.

#### 46. PROTECTIVE MEASURES

The contractor from the time of being placed in possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays.

Contractor shall indemnify the Bank against any possible damage to the building, roads or members of the public in course of execution of the work.

The contractor shall provide necessary temporary enclosures, gates, entrances, etc. for the protection of the work and materials and for altering and adoption the same as may be required and removing on completion of the works and making good all works disturbed.

**Storage of materials:** The contractor shall provide and maintain proper sheds for the proper storage and adequate protection of the materials etc. and other work that may be executed on the site including the tools and materials of sub-contractors and remove same on completion.

Cement godown shall be constructed for storing about six weeks' requirement of cement and stored as per norms with a stack of 10 bags each and 2 feet opening all around with 2 feet passage of each stack. Structure shall be water-proof from all the sides and top. Cement should be stored one feet above the ground level and have pucca raised floor.

So also reinforcement bars are to be stored above the ground level to prevent the same from getting rusted.

**Tools:** Theodolite levels, prismatic compass, chain, steel and metallic taps and all other surveying instruments found necessary on the works shall be provided by the contractor for the due performance of this contract as instructed by the site engineer.

All measuring tapes shall be of steel and suitable scaffolding and ladders that may be required for safely taking measurement shall be supplied by the contractor.

The mistries and the supervisors on the works shall carry with them always a one meter or two meter steel tape, a measuring tape of 30 meters, a

spirit level, a plum bob and a square and shall check the work to see that the work is being done according to the drawing and specifications. The Site Engineer will use any or all measuring instruments or tools belonging to the contractors as he chooses for checking the works executed or being executed on the contract.

The contractor should cover in his rates for making provisions for all reasonable facilities for the use of his scaffolding, tools and plant etc. by sub-contractors for their work.

**47. DATE OF COMMENCEMENT & COMPLETION**

The Contractor shall be allowed admittance to the Site on the “Date of Commencement” stated in the Appendix hereto, or such later date as may be specified by the Architect / Consultant and he shall there upon and forthwith begin the works and shall regularly proceed with and complete the same (except the painting or other decorative works the Architect / Consultant may desire to delay) on or before the “Date of Completion” stated in the Appendix subject nevertheless to the provision for extension of time hereinafter contained.

**48. TIME OF COMPLETION, EXTENSION OF TIME & PROGRESS CHART**

- (i) Time of completion: The entire work is to be completed in all respects within the stipulated period i.e. **75days**. The work shall deemed to be commenced within 10 days from the date of acceptance of work order or date of handing over of site, whichever is later. Time is the essence of the contract and shall be strictly observed by the contractor. The work shall not be considered as complete until the Bank / Architects have certified in writing that this has been completed and the Defects Liability Period shall commence from the date of such certificate.
- (ii) Extension of time: If in the opinion of the Architect / Consultant the work has been delayed
- (a) by force majeure; or
  - (b) by reason of any exceptionally inclement weather or
  - (c) by reason of proceedings taken or threatened by or dispute with adjoining or neighboring owners or public authorities arising otherwise than through the Contractors own default or
  - (d) by the works or delay or the other Contractors or tradesmen engaged or nominated by the Bank or the Architect and not referred to in the Schedule of Quantities and/or specification or
  - (e) by reasons of the Architect’s instructions as per clause 2 hereof or
  - (f) by reason of any combination of workmen or strike or lock-out affecting any of the building trades or
  - (g) in consequence of the Contractor not having received in due time necessary instructions from the Architect for which he shall specifically applied in writing or
  - (h) from other cause which the Bank may consider as beyond the control of the Contractor or
  - (i) In the event, the value of work exceed the value of the Priced Schedule of Quantities owing to variation, the architect may with the previous approval in writing of the Bank make a fair and reasonable extension of time for the completion of the Contract works.

In case of such strike or lockout, the Contractor shall as soon as give written notice thereof to the Architect / Consultant, but the Contractor nevertheless constantly use his endeavor to prevent delay and shall do all that may be reasonably required to the satisfaction of the Architect/Bank to proceed with the work and on his doing so that it will be ground of consideration by the Bank for an extension of time as above provided. The decision of the Bank as to the period to be allowed for an extension of time for completion hereunder (which decision shall be final and binding on the contractor) shall be promulgated at the conclusion of such strike or lock-out and the Bank shall then, in the event of an extension being granted, determine and declare the final completion date. The provision in clause with respect to payment of liquidated damages shall, in such case, be read and construed as if the extended date fixed by the Bank were substituted for and the damage shall be deducted accordingly.

(iii) **PROGRESS OF WORK:** During the period of construction the contractor shall maintain proportionate progress on the basis of a Programme Chart submitted by the contractor immediately before commencement of work and agreed to by the Bank / Architects. Contractor should also include planning for procurement of scarce material well in advance and reflect the same in the Programme Chart so that there is no delay in completion of the project.

**49. FAILURE BY CONTRACTOR TO COMPLY WITH ARCHITECT / CONSULTANT'S INSTRUCTION**

If the Contractor after receipt of written notice from the Architect / Consultant requiring compliance within ten days fails to comply with such further drawings and/or Architect's instructions, the Bank may employ and pay other persons to execute any such work whatsoever the may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the Contractor by the Bank on the Certificate of the Architect / Consultant as a debt or may be deducted by him from any moneys due to the Contractor.

**50. Idle labour:**

Whatever the reasons may be, no claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.

**51. Suspension:**

If the contractor except on account of any legal restraint upon the Bank preventing the continuance of the work or in the opinion of the employer shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default, the Bank shall have the power to give notice in writing to the contractor requiring the work to be proceeded within a reasonable manner and with reasonable dispatch, such notice purport to be a notice under this clause.

After such notice shall have been given the contractor shall not be at liberty to remove from the site of the works or from any ground contiguous thereto any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the contractor fails to start the work within seven days after such notice has been given to

proceed with the works as therein prescribed, the employer may proceed as provided in clause Termination of Contract by employer.

**52. TERMINATION OF CONTRACT BY THE BANK**

If the Contractor being a individual or a Firm, commits any “act of insolvency” or shall be adjudged an Insolvent or being an Incorporate company, shall have an order for supervision of the court and the official Assignee or the Liquidator in such acts of insolvency and winding up, as the case may be, shall be unable within seven days after notice to him requiring him to do so, to show the reasonable satisfaction of the Architect that he is able to carry out and fulfill the Contract and to give security therefore, if so required by the Architect / Consultant.

OR if the Contractor (whether an individual, Firm or Incorporated Company) shall suffer execution or other process of court attaching property to be issued to the Contractor.

OR shall suffer any payment under this Contract to be attached by or on behalf of any of the creditors of the Contractors.

OR shall assign or sublet this Contract without the consent in writing of the Bank first obtained.

OR shall charge or encumber this Contract or any payment due or which may become due to the Contractor hereunder.

OR if the architect / consultant shall certify in writing to the Bank that the contractor:

- i. Has abandoned the Contract, or
- ii. Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for fourteen days after receiving from the Architect notice to proceed, or
- iii. Has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or
- iv. Has failed to remove materials from the Site or to pull down and replace work within seven days after receiving from the architect written notice that the said materials or work were condemned and rejected by the Architect under these conditions or,
- v. Has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this Contract to be observed and performed by the contractor to observe or perform the same.

Then and in any of the said cases the Bank may, notwithstanding any previous waiver, after giving seven days notice in writing to the Contractor, determine the Contract but without thereby affecting the powers of the Architect/Bank or obligations and liabilities of the Contractor, the whole of which shall continue in force as fully as if the contract has not been so

determined, and as if the work subsequently executed had been executed by or on behalf of the Contractor, And further, the Bank by his agent or servants may enter upon and take possession of the work and all plant, tools, scaffoldings, shed, machinery, steam and other power utensils and materials lying upon the premises or on the adjoining land or roads and use the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by the employing any other contractor or person or persons to complete the works and the contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other contractor or other person or persons employed for completing or finishing or using the materials and plant for the work. When the work shall be completed or as soon as thereafter as convenient the Architect shall give a notice to the Contractor to remove his surplus materials and plant, and should the Contractor fail to do so within the period of fourteen days after receipt thereof by him, the Bank may sell the same by public auction, and give credit to the Contractor for the net amount realised. The architect shall thereafter ascertain and certify in writing under his hand what (if anything) shall be due or payable to, or by the employer, for the value of the said plant and materials so taken possession of by the Bank and the expense or loss which the bank shall have been put to in procuring the works to be completed and the amount, if any, owing to the Contractor and the amount, which shall thereupon be paid by the Bank to the Contractor or by the Contractor to the Bank, as the case may be and the certificate of the architect shall be final and conclusive between the parties.

**53. Certificates & payments:**

The Contractor shall be paid by the Bank from time to time by installments under Interim certificates to be issued the Architect / Consultant to the Contractor on account of the works executed when in the opinion of the Architect, work to the approximate value named in the appendix as value of work for Interim Certificates (or less at the reasonable discretion of the Architect / Consultant has been executed in Accordance with this contract, subject, however, to a retention of the percentage of such value named in the appendix hereto as “retention percentage from Interim Certificate”, until the total amount retained shall reach the named in the Appendix as “Total Retention Money”, after which time the installments shall be upto the full value of the work subsequently so executed and fixed in the building. The Architect / Consultant may in his discretion include the Interim Certificate, such amount, as he may consider proper on accounts of material delivered upon the site by the contractor for use in the works. And when the works have been virtually completed and the Architect / Consultant shall have certified in writing that they have been completed, the contractor shall be paid by the Bank in accordance with the certificate to be issued by the Architect / Consultant the sum of money named in the Appendix “Installment after virtual completion” being a part of the said Total Retention Money. And the contractor shall be entitled to the payment of the Final Balance in accordance with the Final Certificate to be issued in writing by the Architect at the expiration of the period referred to as “The Defects Liability Period” in the appendix hereto from the date of virtual completion, or as soon after the expiration of such period as the works shall be finally completed and all defects made good according to the true intent and meaning and hereof whichever shall last happen, provided always that

the issue of the Architect / Consultant of any certificate during the progress of the works or at or after the completion shall not relieve the contractor from his liability under clause 2 and 20 nor relieve the Contractor from his liability in case of fraud, dishonesty or fraudulent concealment relating to the works or materials or to any matter dealt with in the certificate, and in case of all the defects and insufficiencies in the works or materials which is a reasonable examination would not have disclosed. No certificate of the Architect shall of itself be conclusive evidence that any works or materials to which it relates are in accordance with the contract, neither will the contractors have a claim for any amounts which the Architect / Consultant might have certified in any interim bill and paid by the Bank and which might subsequently be discovered as not payable and in this respect the Bank's decision shall be final and binding.

The Architect / Consultant shall have power to withhold any Certificate if the works or any parts thereof are not being carried out to his satisfaction.

The Architect / Consultant may by any certificate make any correction in any previous certificate, which shall have been issued by him.

No certificate of payment shall be issued by architect if the contractor fails to insure the works and keep them insured till the issue of Virtual completion certificate.

All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim nor shall it conclude determine or affect in any way the power of the Bank under these conditions or any of terms as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract.

**54. EXCEPTED MATTERS / MATTERS TO BE FINALLY DECIDED BY THE BANK / ARCHITECT / CONSULTANT:**

The decisions, opinion, direction, certificate (except for payment) with respect to all or any of the matters under this tender shall be final and conclusive and binding on the parties hereto and shall be without appeal. Any other decision, opinion, direction, certificate or valuation of the architect or any refusal of the architect to give any of the same, shall be subject to the right of arbitration and review. The Architect to give recommendations/ opinion in respect of interpreting the various clauses. However, the decision from the competent authority of the bank shall be final and binding.

**55. SETTLEMENT OF DISPUTES BY ARBITRATION**

Wherever, in any of the documents forming part of the Contract, the Consultant / Bank has been vested with the final powers, his decision, opinion, certificate or any other discretion shall be final conclusive and

binding on the parties and shall be without appeal. All other matters shall be subject to the right of arbitration.

All disputes or differences of any kind whatsoever save and except matters referred to in clause 1) arising out of or in connection with the Contract, whether during the progress of Work or after Completion and shall after written notice by either party to the contract to the other of them and to the Bank hereinafter mentioned be referred for adjudication to two Arbitrator, one each to be nominated by the Contractor and the Bank, who shall thereafter appoint an Umpire. The provisions of Indian Arbitration and Conciliation Act 1996 shall apply for the purposes.

The Work under the Contract shall, however, continue during the arbitration proceedings and no payment due or payable to the Contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the first hearing.

The Arbitrator may from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

The Arbitrator shall give a separate award in respect of each dispute or difference referred to him. The Arbitrator shall decide each dispute in accordance with the terms of the contract and give a reasoned award. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion.

The fees, if any, of the Arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle and amount of costs to be so paid.

The award of the Arbitrator shall be final and binding on both the parties.

Subject to aforesaid the provisions of the Arbitration & Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made thereunder, and for the time being in force, shall apply to the arbitration proceeding under this clause.

The Bank and the Contractor hereby also agree that arbitration under clause shall be a condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration.

The Bank and the contractor hereby also agree that arbitration under clause shall be a condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration.



**Jurisdiction:** All matters arising out of or in any way connected with this contract shall be deemed to have arisen in MUMBAI and only the courts in MUMBAI shall have jurisdiction to determine the same.

**56. RIGHT OF TECHNICAL SCRUTINY OF FINAL BILL**

The Bank shall have right to cause a technical examination of the works and the final bill of the works and the final bill of the contractor including all supporting vouchers, abstracts, etc., to be made at the time of payment of the final bill. If as a result of this examination or otherwise any sum is found to have been overpaid or over certified, it shall be lawful for the Bank to recover the sum. The Bank reserves the right to alter / reduce amount certified by Consultant / Engineer, if noticed that certification is not proper.

The subject work will be scrutinized by the Chief Technical Examiner's Office, a technical wing of Central Vigilance Commission and other Vigilance and Audit Authorities of the Bank. Decision of this Authority shall be binding on the contractor. Any discrepancy noted defected shall be rectified by the contractor free of cost or appropriate amount will be recovered from the contractor's payment.

**57. BANK ENTITLED TO RECOVER COMPENSATION PAID TO WORKMEN:**

The Bank is obliged, by the virtue of the provisions of the workmen's compensation Act, 1923, or any statutory modification or re-enactment thereof to pay compensation to a workman employed by the contractor in execution of the works, the Bank shall be entitled to recover from the contractor the amount of compensation so paid, and without prejudice to the rights of the bank under said Act. The Bank shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due to the contractor under this contract or otherwise. The bank shall not be bound to contest any claim made against it under the said Act, except on written request of the contractor and upon his giving to the bank full security to the satisfaction of the Bank for all costs for which the Bank might become liable in consequence of contesting such claim.

**58. ABANDONMENT OF WORKS:**

If at any time after the acceptance of the Tender, the Employer shall for any reasons whatsoever not require the whole or any part of the works to be carried out, the Architect / Bank shall give notice in writing to the contractor who shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from the execution of the whole works but which did not derive in consequence of the foreclosure of the whole or part of the work.

**59. RETURN OF SURPLUS MATERIALS:**

Notwithstanding anything to the contrary contained in any or all the clauses of this contract, where any material for the execution of the contract is procured with the assistance of the Bank by purchase made under orders or permits or licenses issued by the Government, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the prior written permission of the bank, if required by the Bank, at the price to be determined by the Architect having

due regard to the condition of the materials, the price to be determined not to exceed the purchase price thereof inclusive of Sales Tax, Octroi Duty and other such levies paid by the contractor in respect thereof. In event of the breach of the aforesaid condition, the contractor shall, in addition to being liable to action for contravention of the terms of license or permit and /or criminal breach of trust, be liable to Bank for all such moneys, advantage or profits resulting or which in the usual course would have resulted to him by reason of such breach.

**60. RIGHT OF BANK TO TERMINATE CONTRACT IN THE EVENT OF DEATH OF CONTRACTOR IF INDIVIDUAL.**

Without prejudice to any of the rights or remedies under this contract, if the contractor, being an individual dies, the Bank shall have the option of terminating the contract without incurring any liability for such termination.

**61. ESCALATION**

The rate quoted shall be firm throughout the tenure of the contract (including extension of time, if any, granted) and will not be subject to any fluctuation due to increase in cost of materials, labour, Tax, etc., unless specifically provided in these documents. Variation clause enclosed in the tender.

**62. Office accommodation for Site Engineer.**

The contractor shall provide, erect, and maintain at his cost a separate simple watertight office accommodation for the Site engineer/ PMC. This accommodation shall be well lighted and ventilated and provided with windows, door with lock. The site engineer's / PMC office shall be minimum of 150 Sq.Ft. and the contractor shall provide a desk, chairs, drawers, for keeping drawing, a cupboard having proper lock and a tack board for displaying drawings. The accommodation shall be demolished when directed. The contractor to provide one peon for the said office who shall keep the office neat and tidy. The contractor shall also made arrangement for toilet facilities and drinking water. The office shall be provided with fan / air-cooler / air-condition as required.

**63. Security arrangement at Site**

Upon taking possession of the site, the contractor shall make arrangement of security by posting required number of security guards and flood light arrangement.

**APPENDIX / MEMORANDUM TO CONDITIONS OF CONTRACT**

Estimated cost	Rs. 99,80,000/-
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EMD	EMD shall be <b>Rs.1,99,600/-</b> payable in form of Demand Draft / Pay Order favoring Union Bank of India payable at New Delhi
Initial security deposit	The amount of ISD shall be 2% of the accepted value of the tender including EMD.
Performance Security	Performance Security is to be furnished in the form of fixed deposit receipt from a commercial bank (preferably Union Bank of India) or bank Guarantee from commercial bank from the successful /appointed contractor @10% of the estimated cost.
Date of commencement	10 <sup>th</sup> day from the date of acceptance of work order OR date of site possession, whichever is later.
Time for completion of work	As per time schedule given in tender document i.e. 75 DAYS.
Retention money to be deducted from the bills.	8% of the certified gross value of each running bill, till accumulating total security deposit including ISD.
Total Security Deposit	10% of Contract amount / value of final bill whichever is maximum.
Defect Liability Period	Twelve months from the virtual completion. However, if all the works or more than one works awarded to one contractor the defects liability period will be reckoned from the date of virtual completion of last work.
Period of Final Measurement	1 months.
Liquidated damages	Shall be 1.0% of contract amount per week of delay subject to ceiling of 10 % of the accepted contract amount.
Value of works for Interim Certificates	Value not less than <b>Rs.25.00 lacs (Rs.Twenty Five lacs only)</b> or as decided by the Bank.
Payment after virtual completion	50% of total security deposit will be returned after (i) issue of virtual completion certificate by the project architect. (ii) Contractor's removal of his material, equipments, cleaning of site and against Bank Guarantee (for the final bill value of Rs.10.00 lac and above). Balance 50% of retention money shall be released 14 days after satisfactory completion of defect liability period.
Period for honouring interim certificate.	75% of the bill amount shall be honoured within 10 days after getting certificate from project architect and submitting to the bank. Balance 25% bill amount payable within 15 days after checking by the Bank.
Recovery towards taxes.	As per rules applicable from time to time.

### SAFETY CODE

#### 1. Scaffolds

- i. Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work, which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than  $\frac{1}{4}$  to 1 ( $\frac{1}{4}$  horizontal and 1 vertical).
- ii. Scaffolding or staging more than 4 m. above the ground floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly bolted, braced or otherwise secured, at least 1 m. above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- iii. Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than 4 m. above ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (ii) above.
- iv. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 m.  
  
Wherever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
- v. Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m. in length while the width between side rails in rung ladder shall in no case, be less than 290 mm. for ladder up to and including 3 m. in length. for longer ladders this width shall be increased at least 20 mm. for each additional meter of length.
- vi. A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to construction.

## 2. Other Safety Measure

- vii. All personnel of the contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
- ix. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.

### 3. Excavation & Trenching

- ix. All trenches, 1.25 m. or more in depth shall at all times be supplied with at least one ladder for each 30 m. in length or fraction thereof. The ladder shall be extended from bottoms of the trench to at least 1 m. above the surface of the ground. Sides of trenches, which are 1.5 m. or more in depth, shall be stepped back to give suitable slopes or securely held by timber bracing so as to avoid the danger of sides of collapsing. The excavated materials shall not be placed within 1.5 m. of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
- x. The contractor shall take all measure on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any such persons or which may with the consent of the contractor, be paid to compromise any claim by any such person.

### 4. Demolition

- xi. Before any demolition work is commenced and also during the process of the work:
  - a. All roads and open areas adjacent to the work site shall either be closed or suitably protected.
  - b. No electric cable or apparatus, which is liable to be a source of danger over a cable or apparatus used by the operator, shall remain electrically charged.
  - c. All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

### 5. Personal Safety Equipments

- xii. All necessary personal safety equipment as considered adequate by the Engineer should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, the contractor should take adequate steps to ensure proper use of equipment by those concerned.
  - a. Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
  - b. Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.

- c. Those engaged in welding works shall be provided with welder's protective eyesight lids.
- d. Stone breaks shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- e. When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
- f. The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead or any toxic material in any form. Wherever men above the age 18 are employed on the work of such painting the following precautions should be taken:
  - i. No paint containing lead or lead products shall be used except in the form paste or ready made paint. Paints like vinyl and epoxies having toxic fumes should be applied after following all precautions laid down by manufactures.
  - ii. Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
  - iii. Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
- xiii. When the work done near any public place where there is risk of drawings all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

## **6. Hoisting Machines**

- xiv. Use of hoisting machines and tackle including their attachments anchorage and supports shall conform to the following standards or conditions:
  - i.a. These shall be of good mechanical constructions sound material and adequate strength and free from patent defect and shall be kept in good repair and in good working order.
  - i.b. Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.
  - ii. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting including any scaffolding winch or give signals to operator.

- iii. In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- iv. In case of departmental machines, the safe working load shall be notified by the Engineer. As regards contractor's machines, the contractor shall notify the safe working load of the machine to the Engineer whenever he brings any machinery to site of work and get verified by the Engineer concerned.
- xv. Motors, gearing, transmission, electrical wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum of the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary, should be provided. The workers should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.
- xvi. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use.  
  
Adequate washing facilities should be provided at or near places of work.
- xvii. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
- xviii. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer, Engineer of the Department or their representatives.
- xix. Notwithstanding the above clause from (i) to (xviii), there is nothing in these to exempt the contractor from the operation of any other Act or Rule in force in India.

#### ADDITIONAL CONDITIONS

- 1. **Tenderer to inspect Site:** The tenderer shall visit and examine the construction site and satisfy himself as to the nature of the existing roads or other means of communications, the character of the soil and the excavation, the extent of magnitude of the work and facilities for obtaining

material and shall obtain generally his own information on all matters affecting the execution of the work. No extra changes made in consequence of any misunderstanding or incorrect information on any of these points or on grounds of insufficient description will be allowed. All expenses incurred by the contractor in connection with obtaining information for submitting this tender including his visits to the site or efforts in compiling the tender shall be borne by the Tenderer and no claim for reimbursement thereof shall be entertained.

2. **Access to Site:** The tenderer is to include in his rates for forming access to the Site with all temporary roads gangways required for the works.
3. **Setting out:** The tenderer shall set out the building in accordance with the plans. All grid/center lines shall be pegged out to satisfaction of the Architects. The tenderer shall be responsible for the correctness of the lining out and any inaccuracies are to be rectified at his own expenses. He will be responsible for taking ground levels of the Site before setting out and recording them without any extra charge.

The tenderer shall construct and maintain proper benches at the intersection of all main walls, columns, etc., in order that the lines and levels may be accurately checked at all times.

4. **Treasure Trove:** Should any treasure, fossils, minerals, or works of art of antiquarial interest be found during excavation or while carrying out the works, the tenderer shall give immediate notice to the Architects of any such discovery and shall make over such finds to the Employer.
5. **Attendance upon all Trades:** The general tenderer shall be required to attend on all the Tradesman or Sub-contractor/ contractors appointed by the bank for Water-Supply & Sanitary, Electrical installation, Air-conditioning, Security Equipment, Hardware, Telephone and other special contactors. The rates quoted shall be inclusive of attendance and also allow the contractors and retain until such times the relevant Sub-contract works are completed.
6. **Gate-Keeper and Watchmen:** The tenderer from the times of being placed in possession of the Site must make arrangements for watching, lighting and protecting the work, all materials, workmen and the public by day and night on all days including Sundays and holidays at his own cost.
7. **Sheds for materials:** The contractor shall provide all necessary sheds of adequate dimensions for shortage and protection of materials like cement, lime, timber, and such other materials including tools and equipments which are likely to deteriorate by the action of sun, wind, rain or other natural causes due to exposure in the open.  
Cement godown shall be constructed for storing about six weeks' requirement of cement and stored as per norms with a stack of 10 bags each and 2 feet opening all around with 2 feet passage of each stack. Structure shall be waterproof from all the sides and top. Cement should be stored one feet above the ground level and have pucca raised floor.



So also reinforcement bars are to be stored above the ground level to prevent the same from getting rusted.

All such sheds shall be cleared away and the whole area left in good order on completion of the contract to the satisfaction of the Architects.

All materials which are stored on the site such as bricks, aggregate, etc. shall be stacked in such a manner as to facilitate rapid and easy checking of quantum of such materials.

8. **Cost of transporting:** The tenderer shall allow in his cost for all transporting, unloading stacking and storing or supplies of goods and materials for this work on the site and in the places approved from time to time by the Architects. The tenderer shall allow in his price for transport of all materials controlled or otherwise to the site.
9. **W.C and Sanitary accommodation and office Assessors and accommodation:** The tenderer shall provide at his own cost and expense adequate closet and sanitary accommodation complying in every respect to the rules and regulations in force of the local authorities and other public bodies, for his workmen of nominated sub-contractors and other contractors working in the building, the assistant engineer and other employer's agent connected with this building project and maintain the same in good working order.

The tenderer shall also provide at his own expense adequate office and shall maintain the same in a satisfactory condition and shall provide light, fan and attendant, etc... for the same and shall remove them after completion of works. He shall arrange to supply at his own expense, office furniture with drawing assessors for the official use of the assistance engineer and at all times maintain in good working order a dumpy level and a Theodolite at Site, to enable the Site Engineer to check the lines and levels of work.

10. **Materials, Workmanship & Samples:** Materials shall be of approved quality and the best of their kind available and shall generally conform to I.S. Specifications, The Contractor shall order all the materials required for the execution of work as early as necessary and ensure that such materials are on site well ahead of requirement for use in the work. The work-involved calls for high standard of workmanship combined with speed and to the entire satisfaction of the Architects.
11. **Rates for Non-Tender Items:** Rates of items not included in Schedule of Quantities shall be settled by the Architects as mentioned in the variation clause of the Contract Conditions.
12. **Rate to include:** The rates quoted shall be for all heights and depths and for finished work.  
The contractor shall ascertain from other contractors as directed by the Architects all particulars relating to their work with regard to the order of its execution and the position in which cases, holes and similar items will be required, before the work is taken in hand as no claims for extras will be

allowed for cutting away work already executed in consequence of any neglect by the contractors to ascertain these particulars beforehand.

Before ordering materials, the contractors shall get the samples approved from the Architects well in time.

- 13. Testing of work and material:** The contractors will have to carryout testing of the material at regular interval to proof quality, soundness and efficiency of the material. Expenditure required for testing and transportations shall be borne by the tenderer.

- Cost of testing and transport will be borne by contractors.
- Any other materials will be tested by contractors at his own cost as per the instruction of Architect and Bank from time to time.
- Frequency stated above is minimum and the Contractor may have to test materials with any frequency or as instructed by Bank/Architects without any cost.

If after any such test the work or portion of works is found in the opinion of the Architect to be defective or unsound, the contractor shall pull down and re-do the same at his own cost. Defective materials shall immediately be removed from the site.

- 14. Mechanical Plant:** The contractor will be required to provide and maintain in working order the following power-driven equipments during the constructions work: -

- i. Concrete Mixers of more than 200 Liters capacity (7 C.ft.).
- ii. Devices to lift up materials to the highest level of the building of the capacity in R.C.C. beams, columns and partition wall and surface type vibrators shall be maintained on the site of work.
- iii. Pumps for bailing out water.
- iv. Any other machinery ordered by the Architects.

- 15. Foremen and Tradesmen:** All tradesmen shall be experienced men properly equipped with suitable tools for carrying out the work of carpentry and joinery and other specialist trades in a first class manner and where the Architects deemed necessary, the contractor shall provide any such tools, special or ordinary which are considered necessary for carrying out the work in a proper manner.

All such tradesmen shall work under an experienced and properly trained foremen, who shall be capable of reading and understanding all drawings, pertaining to this work and the contractor shall also comply with other conditions set out in Clause 9 of the conditions of the contract.

- 16. Work Programme / weekly progress report:**

The contractor shall prepare and submit to architects for approval, a bar chart showing the programme of construction of various items, fitted within the period stipulated for completion, within 15 days of the communication of the acceptance of the tender. The contractor shall also furnish

necessary particulars to the site engineer for compiling weekly progress reports in the form furnished by the architects.

**17. Preparation of building for occupation and use on completion:**

The whole of the work shall be thoroughly inspected by the contractor and all deficiencies and defects put right. On completion of such inspection, the contractor shall inform the architects in writing, that he has finished the work and it is ready for the architect's inspection.

On completion, the contractor shall clean all windows and doors and all glass panes, including cleaning of all floors, staircases and every part of the building including oiling of all hardware. He will leave the entire building neat and clean and ready for immediate occupation and to the satisfaction of the architects.

**18. Clearing of Site:** The contractor shall after completion of the work clear the site of all the debris and left over materials at his own expense to the entire satisfaction of the Architects and Municipal or other public authorities.

The whole of the work shall be thoroughly inspected by the contractor and all deficiencies and defects put right. On completion of such inspection, the contractor shall inform the Architects in writing, that he has finished the work and it is ready for the Architects inspection.

**19. Contractor to provide etc:** The contractor shall provide a notice board on proper supports 2 m. x 1.5m (6' x 4'-6") in a position approved by the Architects. He shall allow for painting and lettering stating name of work, name of Architects, Structural consultants, general contractor and Sub-contractor. All letters except that of the name of the work shall be in letters not exceeding 5 cm. in height and all to the approval of the Architects.

**20. Vouchers:** The contractor shall furnish the Architects with vouchers on request, to prove that the materials are as specified and to indicate the rates at which the materials are purchased in orders to work out the rate analysis of the non-tender items which he may be called upon to carry thereafter.

**21. USE OF WATER AND ELECTRICITY**

The contractor shall make arrangements at his own expense for water and electricity so as to ensure timely progress and completion of works.

### TECHNICAL SPECIFICATIONS FOR HVAC WORKS

(The detailed specifications are as under. The contractor has to adopt and execute the same vis-à-vis technical specifications and BOQ. Specific technical details are specified for the work under scope of contract. Wherever information is to be provided by the vendor, the same is to be furnished in the relevant columns)

1. COMPLETENESS OF TENDER: -

All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.

2. RATES: -

The rates tendered shall be for complete items of work inclusive of Cost of material, erection, connection, testing, labour, supervision, tool & plants, storage, contingencies, breakage, wastage, execution at any level & height, . and all charges for items contingent to the work, such as, packing, forwarding, insurance, freight and delivery at site for the materials to be supplied by the contractor. GST as applicable will be paid extra over and above quoted rates

A. **3 VARIABLE REFRIGERANT VOLUME SYSTEM**

SCOPE

The scope of this section comprises the supply, erection testing and commissioning of **inverter based** Variable Refrigerant Volume System with **Scroll Compressor** conforming to these specifications and in accordance with the requirements of Drawing and Schedule of Quantities.

TYPE

Units shall be air cooled, variable refrigerant volume air conditioner of R410A gas based consisting of outdoor unit and multiple indoor units. Each indoor units having capability to cool or heat independently for the requirement of the rooms. Even when one of the indoor units in the system is under maintenance or breakdown, the other indoor units can still operate.

It shall be possible to connect several indoor units on one refrigerant circuit. The indoor units on any circuit can be of different type and also controlled individually. Following type of indoor units shall be connected to the system:

- a) Cassette Unit
- b) Ceiling mounted Ductable Unit
- c) Wall mounted Hi-wall Unit

### **OUTDOOR UNIT**

The outdoor unit shall be factory assembled, weather proof casing, constructed from heavy gauge mild steel panels and coated with baked enamel finish. The unit should be completely factory wired tested with all necessary controls and switch gears:

The outdoor unit shall be modular in design and should be allowed for side by side installation.

The unit shall be provided with its own microprocessor control panel.

### **COMPRESSOR**

The compressor shall be **highly efficient scroll type** and capable of inverter control. It shall change the speed in accordance to the variation in cooling or heating load requirement:

- a) The inverter shall be IGBT type for efficient and quiet operation.
- b) All outdoor units shall have at least 10 to 30 steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed.
- c) Oil heater shall be provided in the compressor casing.

### **HEAT EXCHANGER**

The heat exchanger shall be constructed with copper tubes mechanically bonded to aluminum fins to form a cross fin coil.

The aluminum fins shall be covered by **anti-corrosion resin** film.

The unit shall be provided with necessary number of direct driven low noise level propeller type fans arranged for vertical discharge. Each fan shall have a safety guard.

### **REFRIGERANT CIRCUIT**

The refrigerant circuit shall include liquid & gas shut-off valves and a solenoid valves at condenser end. All necessary safety devices shall be provided to ensure the safely operation of the system.

### **SAFETY DEVICES**

VRF system shall be provided with all safety devices as required and to ensure safe operation of the system, but not restricted to the following:

- a) High pressure switch
- b) Fuse
- c) Crankcase heater
- d) Fusible plug

- e) Over load relay
- f) Protection for inverter
- g) Short recycling guard timer

### **OIL RECOVERY SYSTEM**

Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths.

### **INDOOR UNIT**

This section deals with supply, installation, testing, commissioning of various type of indoor units confirming to general specification and suitable for the duty selected. The type, capacity and size of indoor units shall be as specified in detailed Bill of Quantities.

Indoor units shall be either ceiling mounted ductable type, wall mounted type, cassette unit or other as specified in BOQ. These units shall have electronic control valve to control refrigerant flow rate respond to load variations of the room.

The address of the indoor unit shall be set automatically in case of individual and group control.

There shall be localized control only.

The fan shall be dual suction, aerodynamically designed turbo, multi blade type, statically & dynamically balanced to ensure low noise and vibration free operation of the system. The fan shall be direct driven type, mounted directly on motor shaft having supported from housing.

The cooling coil shall be made out of seamless copper tubes and have continuous aluminum fins. The fins shall be spaced by collars forming an integral part. The tubes shall be staggered in the direction of airflow. The tubes shall be hydraulically/ mechanically expanded for minimum thermal contact resistance with fins. Each coil shall be factory tested at 21kg/sqm air pressure under water.

Unit shall have cleanable type filter fixed to an integrally moulded plastic frame. The filter shall be slide away type and neatly inserted.

Each indoor unit shall have computerized PID control for maintaining design room temperature. Each unit shall be provided with microprocessor thermostat for cooling and heating.

**CEILING SUSPENDED DUCTABLE TYPE:**

The Unit shall be suitable for ceiling suspended arrangement above false ceiling. The unit includes pre filter, fan section & DX coil section. The housing of unit shall be light weight powder coated galvanized steel.

**HIGH WALL MOUNTED UNITS:**

The units shall be wall-mounted type. The unit includes pre filter, fan section & DX coil section. The housing of unit shall be light weight powder coated galvanized steel.

**Cassette Units**

The Unit shall be suitable for ceiling suspended arrangement above false ceiling. The unit includes pre filter, fan section, decorative panel, drain pump & DX coil section. The housing of unit shall be light weight powder coated galvanized steel.

**B. PIPING****REFRIGERANT PIPING**

All refrigerant piping for the air conditioning system shall be constructed from soft seamless upto 19.1mm and hard drawn copper refrigerant pipes for above 19.1mm with copper fittings and silver-soldered joints. The refrigerant piping arrangements shall be in accordance with good practice within the air conditioning industry, and are to include charging connections, suction line insulation and all other items normally forming part of proper refrigerant circuits.

All joints in copper piping shall be sweat joints using low temperature brazing and or silver solder. Before joining any copper fittings, its interiors shall be thoroughly cleaned by passing a clean cloth via wire or cable through its entire length. The piping shall be continuously kept clean of dirt etc. while constructing the joints. Subsequently, it shall be thoroughly blown out using nitrogen.

The Refnet Joints (Y-joints/T-joints) and Refnet Headers shall be made from copper and would be imported, factory fabricated.

After the refrigerant piping installation has been completed, the refrigerant piping system shall be pressure tested using nitrogen at pressure of 580 PSIG. Pressure shall be maintained in the system for 24 hours. The system shall then be evacuated to minimum vacuum if 700mm hg and held for 24 hours.

The air-conditioning system supplier shall verify the refrigerant piping design conceived and brought to the notice of Consultants if any discrepancy is found.

The thickness of copper piping shall not be less than mentioned below:

Pipe Size in mm(OD)	Wall Thickness in mm
a) 41.3	1.4
b) 38.1	1.3
c) 34.9	1.2
d) 31.8	1.1
e) 28.6	1.0
f) 25.4	1.0
g) 22.2	1.0
h) 19.1	1.0
i) 15.9	1.0
j) 12.7	0.8
k) 9.5	0.8
l) 6.4	0.8

The suction line pipe size and the liquid line pipe size shall be selected according to the manufacturers specified outside diameter. All refrigerant pipes shall be properly supported and anchored to the building structure using steel hangers, anchors, brackets and supports which shall be fixed to the building structure by means of inserts or expansion shields of adequate size and number to support the load imposed thereon. All exposed pipe shall be covered with GI Cover.

#### **Drain Piping**

All pipes to be used for drain, condensate drain and fittings shall be UPVC (10 Kg Pr. Rating) confirming to relevant IS & BIS Codes.

All jointing in the pipe system shall be by screwed or sealed by solvent. Pipe threads and flanges shall be as per relevant BIS Codes.

Fittings shall be UPVC of pressure rating suitable for the piping system.

All condensate drain piping shall be insulated and painted as per the section “Insulation” indicated in schedule of Quantities.

All exposed drain pipe shall be covered with GI Cover.

#### **Refrigerant Pipe Insulation**



The whole of the liquid and suction refrigerant lines including all fittings, valves and strainer bodies, etc. shall be insulated with 19mm /13 mm thick elastomeric nitrile rubber as specified in BOQ.

### **Drain Pipe Insulation**

Drain pipes carrying condensate water shall be insulated with 6 mm thick elastomeric nitrile rubber insulation.

For proper drainage of condensate, U Trap shall be provided in the drain piping (wherever required). All pipe supports shall be of pre fabricated & pre painted slotted angle supports, properly installed with clamps etc.

## **C. AIR DISTRIBUTION**

Supply, fabrication, installation and testing of all sheet metal ducts & supply, installation, testing and balancing of all grilles, registers and diffusers, in accordance with these specifications and the general arrangement shown on the drawings.

Duct work shall mean all ducts, casings, dampers, access doors, joints, vanes, stiffeners, hangers and supports etc.

Sheet Metal Duct Works shall be carried out in accordance with either SMACNA or B.I.S. (IS 655) guidelines, as asked for in BOQ. SMACNA guidelines (upward modified in this specification) shall be adopted for factory fabricated ducts, and BIS Codes shall be adopted for site fabricated ducts.

### **Duct Material and Fabrication**

Duct works material shall be as follows:

**G.S.S.** (Class VIII, 120 GSM of light coating zinc) minimum gauge to be used is 24.

**Aluminium** Minimum gauge to be used is 22.

Contractor shall prepare shop drawings, coordinated with the working drawings and the ceiling plans made by Architect.

Contractor shall fabricate, supply, install, test and balance air system and establish the air balance schedule.

### **DUCT DESIGN PARAMETERS**

<b>Maximum Flow Velocity in supply air duct</b>	<b>1200 FPM</b>
<b>Maximum Flow Velocity in return air duct</b>	<b>1000 FPM</b>
<b>Maximum Flow Velocity in exhaust air duct</b>	<b>1800 FPM</b>
<b>Maximum Friction</b>	<b>0.1WG/100FT</b>
<b>Maximum Velocity at SA outlet</b>	<b>500 FPM</b>

### **GAUGES, BRACING BY SIZE OF DUCTS**

All ducts shall be fabricated from galvanized steel / aluminum of the thickness, as indicated

in relevant tables.

**Table 8: For Ducts with External SP upto 250 Pa (ESP upto 25mmWG)**

Rectangular Duct G.S	Pressure 250 Pa		
	Duct Section Length 1.2 m (4ft)		
Maximum Duct Size	Gauge	Joint Type	Bracing Spacing
1-750 mm	24	C&S Connector	NIL
751-1000 mm	24	TDF Flange	NIL
1001-1500mm	22	TDF Flange	NIL
1501-1800mm	22	TDF Flange	JTR or ZEE BAR
1801-2100mm	20	TDF Flange	JTR or ZEE BAR
2101-2700mm	18	TDF Flange	JTR or ZEE BAR

#### Fabrication Standards and Equipment

All duct construction and installation shall be in accordance with SMACNA standards. In addition ducts shall be factory fabricated utilizing the following machines to provide the requisite quality of ducts.

Coil (Sheet metal in Roll Form) lines to facilitate location of longitudinal seams at corners/folded edges only, for required duct rigidity and leakage free characteristics. No longitudinal seams permitted along any face side of the duct.

All ducts, transformation pieces and fittings to be made on CNC profile cutter for requisite accuracy of dimensions, location and dimensions of notches at the folding lines.

All edges to be machine treated using lock formers, flangers and rollers for turning up edges.

#### Duct Construction

All ducts shall be fabricated and installed in workmanlike manner, conforming to relevant SMACNA codes.

Ducts so identified on the Drawings shall be acoustically lined and insulated from outside as described in the section “Insulation” and as indicated in schedule of Quantities. Duct dimensions shown on drawings, are overall sheet metal dimensions inclusive of the acoustic lining where required and indicated in Schedule of quantities. The fabricated duct dimensions should be as per approved drawings and care should be taken to ensure that all connecting sections are dimensionally matched to avoid any gaps.

Ducts shall be straight and smooth on the inside with longitudinal seams shall be airtight and at corners only which shall be either Pittsburgh or snap button as per SMACNA practice, to ensure air tightness.

All concealed ducts up to 750mm width within conditioned spaces shall have slip and drive (C & S/SS) joints. The internal ends of slip joints shall be in the direction of airflow. Care should be taken to ensure that S/SS Cleats are mounted on the longer side of the duct and Cleats on the shorter side. Ducts and accessories within ceiling spaces, visible from air-conditioned areas shall be provided with two coats of mat black finish paint.

Changes in dimensions and shape of ducts shall be gradual (between 1:4 and 1:7). Air-turns (vanes) shall be installed in all bends and duct collars designed to permit the air to make the turn without appreciable turbulence.

Ducts shall be fabricated as per details shown on Approved for Construction Shop Drawings. All ducts shall be rigid and shall be adequately supported and braced where required with standing seams, tees, or angles, of ample size to keep the ducts true to shape and to prevent buckling, vibration or breathing.

All sheet metal connection, partitions and plenums, required to confine the flow of air to and through the filters and fans, shall be constructed of 18 gauge GSS / 16gauge aluminum, thoroughly stiffened with 25mm x 25mm x 3mm galvanized steel angle braces and fitted with all necessary inspection doors as required, to give access to all parts of the apparatus. Access doors shall be not less than 450mm x 450mm in size.

Plenums shall be shop/factory fabricated panel type and assembled at site. Fixing of galvanized angle flanges on duct pieces shall be with rivets heads inside i.e. towards GS sheet and riveting shall be done from outside.

Self adhesive Neoprene rubber / UV resistant PVC foam lining 5mm nominal thickness instead of felt, shall be used between duct flanges and between duct supports in all ducting installation.

#### **SITE FABRICATED DUCT**

Ducting Material: GSS

All ducts shall be fabricated from galvanized steel sheets of the following thickness as indicated in Schedule of Quantities.

	<b>Gauge</b>
Rectangular ducts upto 75cm	0.63mm
Rectangular ducts 76 to 150cm and all round ducts	0.80mm
Rectangular ducts 151 to 225cm	1.00mm
Rectangular ducts greater than 225cm	1.25mm

### Duct Installation

All ducts shall be installed generally as per tender Drawings, and in strict accordance with approved shop drawings to be prepared by the Contractor. The contractor shall also carry out the feasibility study at site, coordination with other services and interior drawings before fabrication of duct at the factory. Any fabricated duct rejected due to these reasons shall not be paid and only final measured and installed duct shall be certified for payment.

The Contractor shall provide and neatly erect all sheet metal work as may be required to carry out the intent of these Specifications and Drawings . The work shall meet with the approval of Architects/Consultants/Client"s site representative in all its parts and details.

All necessary allowances and provisions shall be made by the Contractor for beams, pipes, or other obstructions in the building, whether or not the same are shown on the Drawings. Where necessary to avoid beams or other structural work, plumbing or other pipes, and conduits, the ducts shall be transformed, divided or curved to one side (the required area being maintained) all as per the site requirements.

If a duct cannot be run as shown on the Drawings, the Contractor shall install the duct between the required points by any path available, in accordance with other services and as per approval of Client"s site representative. Fabrication of duct shall be commenced only after verifying the feasibility at site.

All duct work shall be independently supported from building construction. All horizontal ducts shall be rigidly and securely supported, in an approved manner, with trapeze hangers formed of fully threaded galvanized steel rods and galvanized steel angle/channel under ducts at no greater than 2 meter centre. All vertical duct work shall be supported by structural members on each floor slab. Galvanised steel cleat with a hole for passing the hanger rods shall be welded to the plates. Trapeze hanger formed of galvanized steel rods and angles/ channels shall be hung through these cleats. Duct support shall be through dash /anchor fastener driven into the concrete slab by electrically operated gun. Hanger rods shall then hang through the cleats. Size of supports shall be as given here under :

**Table 9: Duct Support**

Duct Size	Spacing	Size of MS angle	Size of rod
(mm)	(M)	(mm x mm)	dia (mm)
Upto 750	2.0	25 x 3	8
751 to 1500	2.0	40 x 5	10

1501 to 2250	2.0	50 x 5	12
2251 to above	2.0	65 x 6	12

### **Dampers**

Opposed blade type louver dampers with quadrant and thumb screw lock shall be used at supply air collars for balancing of air distribution system and box type volume control dampers having lever operation shall be used at the outlet of air conditioning equipment or as shown on the approved shop drawings.

All dampers shall be multi blade type of robust construction of galvanized steel unless and until specified otherwise in the Bill of Quantities and tightly fitted. The design, method of handling, and control shall be suitable for the location and service required.

Dampers shall be provided with suitable links, levers and quadrants as required for their proper operation ; control or setting devices shall be made robust, easily operable and accessible through suitable access doors in the ducts. Every damper shall have an indicating device clearly showing the damper position at all times.

Dampers shall be placed in ducts and at each supply air collar, whether or not indicated on the drawings, for the proper volume control and balancing of the system.

Automatic and manual volume control opposed blade dampers shall be complete with frames and bronze bearings as per drawings. Dampers and frames shall be constructed out of 1.6mm steel sheets and blades shall not be over 225mm wide. The dampers for fresh air inlet shall additionally be provided with fly mesh screen, on the outside, of 0.8mm thickness with fine mesh.

Wherever required for system balancing, a volume balancing opposed blade damper with quadrant and thumb screw lock shall be provided.

After completion of the duct work, dampers are to be adjusted and set to deliver air flow as specified on the drawings.

### **Linear Grilles**

The linear supply cum return air grilles shall be fabricated from extruded aluminium sections. Flanges shall be of minimum 1.3 mm thick extruded aluminium suitable to hold the louvers tightly in fixed position.

Louvers shall be minimum 3mm thick throughout of extruded aluminium construction with 15 degree deflection unless and until specified otherwise. Grilles shall be provided with removable/fixed internal core as mentioned in the BOQ. The sample of grille shall have to be got approved by the consultants before delivery.

All sections of grills shall be powder coated for color and shade as approved by the Architects to match interior finishes.

Linear grilles at each supply air outlet shall be provided with volume control dampers as mentioned above and accounted for in BOQ separately. The linear grilles shall be fixed in to a plenum chamber having GI spacers with concealed screws. End pieces or corner pieces shall be provided as required.

### **Diffusers**

Square ceiling diffuser shall be anti-smudge ring type fabricated out of extruded aluminium sections. The four directional air flow diffuser shall consist of outer ring fixed to duct collar with concealed screws. Foam gasket shall be provided between outer ring and suspended ceiling. The central core shall be clip fixed to the outer ring.

Opposed blade volume control damper in extruded aluminium construction shall be fixed to the neck of diffuser. The damper shall be adjusted after removing the central core.

All sections of diffusers shall be powder coated for color and shade as approved by the Architects to match interior finishes. The sample of diffuser shall have to be got approved by the consultants/architects before delivery.

### **Jet Diffusers**

Jet nozzle diffuser shall be eye all type suitable for deliver high stream of air over long distances. The jet nozzle diffuser shall be fully reversible, rotating through 180 degrees. Its angular movement allow the air stream to be delivered through a wide area of direction either in full jet position or in reduced jet position. Diffuser can be fixed directly to the round duct. Foam gasket shall be provided around the back of jet nozzle diffuser to avoid air leakage.

All sections of diffusers shall be powder coated for color and shade as approved by the Architects to match interior finishes. The sample of diffuser shall have to be got approved by the consultants/architects before delivery.

### **Multislot Linear Diffuser**

Linear ceiling diffuser shall be multislot type. The diffuser shall be fabricated out of extruded aluminium sections. Each slot shall be 19mm wide. Each slot shall be equipped with air flow direction control louver mechanically fixed. Integral sliding type hit & miss type volume control damper in extruded aluminium construction shall be provided for each slot for fine control of air flow in supply air portion only. The damper shall be fabricated out of anodized extruded aluminium sections.

Other sections of ceiling diffuser shall be powder coated in colour & shade approved by the Consultants/Architects.

The linear diffuser shall be fixed in to a plenum chamber with concealed screws. Side end pieces or corner pieces shall be provided if required.

### **Air Transfer Grille**

Air transfer grilles shall be in extruded aluminium construction. The grilles shall be complete with single /double frame suitable to be fixed on the door panel from both sides. The central core shall be no-see-thru type.

The grilles shall be anodized or powder coated in colour and shade as approved by the Architects. The grilles shall be provided with insect screen.

The ATGs shall be provided at the door of pantry and toilets as shown in the approved drawings. The sample of grille shall have to be got approved by the consultants before delivery.

### **Painting**

All grilles and diffusers shall be powder coated at factory prior to delivery at site of approved color and shade.

All ducts immediately behind the grilles/diffusers etc. to be applied with two coats of black paint in matt finish.

### **Fire cum Smoke Dampers**

#### **Bare Dampers**

All supply and return air ducts/ return air spaces at AHU room crossings and at all floor crossings shall be provided with approved make motorized fire and smoke dampers of at least 90 minutes fire rating as certified by CBRI Roorkee, India as per clause 10 of UL:555-1995. These dampers shall be multi-leaf type -Ruskin.

Fire damper blades and outer frame shall be formed out of 1.6mm (16G) galvanized steel sheet of length as mentioned in the approved for construction shops drawings tilted as AHU Room Blow Up. The damper blade shall be pivoted on both ends using chrome-plated spindles in self-lubricated bronze bushes. Stop seals shall be provided on top and bottom of the damper housing made of 16 gauge galvanized sheet steal. For preventing smoke leakage, metallic compression side seals shall be provided. Dual side leakage shall be provided for better structural stability. The construction of the fire damper shall allow maximum free area to reduce pressure drop and noise in the air passage, in normal position damper blade shall be held in open position with the help of a 220 V operated electric actuators thereby providing maximum air pressure without creating any noise or chatter.

For wall mounted fire dampers retaining MS angles duly painted with black enamel paint shall be supplied and installed by HVAC Contactor as per

established installation procedure. Whereas the fire damper is also used for Smoke management (Smoke and fire damper) the same shall be as per UL-555 S-Class-II.

Every motorized fire damper/ Smoke and fire damper shall be tested in the factory and will be certified by the manufacturer in form of the test certificate.

Fire dampers shall also be supplied with spring locked fusible link rated for 720C (UL stamped) to close fire damper in event of rise in duct temperature.

For fire dampers/ smoke fire dampers of size higher than one approved by certifying agency the damper shall be supplied in multiple units of size not exceeding the tested damper by CBRI. All the multiple units shall be housed in a common factory fitted sleeve.

The fire dampers shall be mounted in fire rated wall with a duct sleeve 400mm/ 500mm long depending upon the wall thickness. The sleeve shall be factory fitted on fire damper. The joints at sleeve end shall be slip on type. Minimum thickness of galvanized sheet shall be 18 gauge.

The damper shall be installed in accordance with the installation method recommended by the manufacturer.

#### **Actuators**

The actuator shall be maintenance free coupled spring return type suitable to work on 24V electric supply. The torque rating of the actuator shall exceed at least by 15% over torque required to open/ close the damper. The selection of actuator size shall be the responsibility of the manufacturer of the fire damper. Spring return time shall be 20 seconds or less at ambient temperature. Other features of the damper actuator shall be as under:

Actuator shall have tamper proof housing with IP-54 protection rating.

Actuator shall have mechanical integrity of at least one hour at 900oC.

Actuator shall have minimum 600000 safe position at rated torque. It shall be capable to withstand temperature of 75oC for 24 Hrs.

Actuator shall have electronic over load or digital sensing circuit to prevent damage to actuator.

Should be capable of changing direction of rotation by changing mounting orientation .

Actuator shall have manual over ride facility.

Damper actuator shall be such that it should close the damper in the event of power failure automatically and open in the same manner in case of power being restored.



**Control Panels**

The control panel shall be supplied by damper manufacturer fitted on damper compatible with damper actuators. The control panel shall have at least following features:

Power on lamps with 230 V/ 24 V Transformer.

Damper close and open indication.

Reset push button.

Push button for manual running of actuator for periodic inspection.

Auxiliary contacts 24V/ 230V.

Contact points to receive signal from smoke detector/ fire alarm panel.

Additional terminal shall be provided to have signal (audio or visual) in central control room.

In addition the Control panel shall have following features as well :

- Potential free contacts for AHU fan/Pkg Unit ON/ Off and remote alarm indication.
- Accept signal from external smoke / fire detection system for tripping the electrical actuator.
- Test and reset facility.
- Indicating lights / contacts to indicate the following status:
- Power Supply On
- Alarm

The control panel shall receive 230V A/C supply and interconnecting wiring between control panel and actuator shall be carried out using fire proof cables.

The Contactor shall ensure that all electrical connections are suitably terminated. The HVAC Contractor shall also check continuity of electrical circuit as recommended by the manufacture. Fire damper inspection door will be provided in AC duct to facilitate access to the system.

**Testing and Balancing**

After completion of the installation of the complete air distribution system, all ducts shall be tested for air leaks.

Before painting the interiors, air distribution system shall be allowed to run continuously for 48 hours for driving away any dust or foreign material lodged within ducts during installation.

The entire air distribution system shall be balanced using approved anemometer. Air quantities at the fan discharge and at various outlets shall be identical to, or less than 5 percent in excess of, those specified and quoted. Leakage in each air distribution system shall be within 3 percent so that supply air volume at each fan shall be identical to, or no greater than 3 percent in excess of, the total air quantity measured at all supply outlets served by the fan. Branch duct adjustments shall be made by volume or splitter dampers. Dampers shall be permanently marked after air balance is complete so that these can be restored to their correct position if disturbed at any time. Complete air balance report shall be submitted to the Consulting Engineer for scrutiny and approval, and six copies of the approved report shall be provided with completion documents.

## E. INSULATION

### Duct Insulation (External)

#### **Material**

Insulation material shall be closed cell elastomeric material (nitrile rubber) having fire retardant Class “O” properties. Density of insulation material shall range between 0.04-0.07 gm/Cucm. Thermal conductivity (K value) at 40 C mean temperature and Service temperature limit shall be 0.039 W/M.K and -40C to 105C respectively. Water vapour permeability shall not be less than 7000 Kg/Pa/s.m. Water absorption shall not be more than 1.5% by weight. Insulation material shall have excellent ozone resistance properties. Excellent Thermal Stability. Insulation material shall be tested for the said properties in accordance with the relevant international codes including BS 874 Part 2 1986, DIN 52612(K Value),DIN 52615 (Water vapour permeability), BS 476 Part6 & Part7 (Flammability).

#### **Application**

Duct insulation shall be applied as follows:

- a. External surface of the ducts to be cleaned vigorously to remove dirt and any other foreign material from the surface of the ducts.
- b. Apply Low VOC adhesive SR-505/998 on the surface of ducts.
- c. Wrap factory fitted IC cladding/Aluminium Foil faced closed cell insulation material having thickness as mentioned in BOQ butting all joints. All joints to be sealed with adhesive.

### Acoustic Lining of Ducts

#### **Material**

Acoustic insulation material shall generally possess the properties mentioned above, however, insulation material shall be processed with 15 mm thick Open Cell Nitrile Rubber Foam having fire retardant Class “O” properties. Density of insulation material shall range between 140-180 Kg/CuM. The insulation material shall conform to the international codes including BS 476 Part6 & Part7 (Flammability).

#### **Application**

Acoustical lining of duct wherever specified shall be applied as under:

- a. Internal surface of the ducts to be cleaned vigorously to remove dirt and any other foreign material from the surface of the ducts
- b. Apply Low VOC adhesive on the surface of ducts.
- c. Cut foamed sheets into required sizes using sharp knives. Apply adhesive on the foam and stick it to the duct surface.

#### **Copper Piping Insulation**

All Copper piping shall be insulated using specified insulation material as described here under :

#### **Material**

Insulation material shall be closed cell elastomeric material (nitrile rubber) having fire retardant Class “O”. Density of insulation material shall range between 0.04-0.07 gm/Cucm. Thermal conductivity (K value) at 40 C mean temperature and Service temperature limit shall be 0.039 W/M.K and -40C to 105C respectively. Water vapour permeability shall not be less than 7000 Kg/Pa/s.m. Water absorption shall not be more than 1.5% by weight. Insulation material shall have excellent ozone resistance properties. Excellent Thermal Stability. Insulation material shall be tested for the said properties in accordance with the relevant international codes including BS 874 Part 2 1986 ,DIN 52612(K Value),DIN 52615 (Water vapour permeability), BS 476 Part6 & Part7 (Flammability).

#### **Application**

No insulation shall be applied on pipes until the pipes are satisfactorily tested, as specified in section “PIPING”.

Using closed cell elastomeric insulation

- a. Pipes to be thoroughly cleaned with brush & linen and rendered free from all foreign material and grease.
- b Apply Low VOC adhesive on the surface of pipe.

- c. Closed cell Elastomeric Thermal insulation preferably in tubing form shall be fixed tightly to the surface.
- d. All joints to be sealed properly using 3mm thick 50 mm wide self adhesive tap of same material.

### **Underdeck Thermal Insulation for Exposed Roof**

#### **Material**

Insulation material shall be closed cell elastomeric material (nitrile rubber) having fire retardant Class “O” properties. Density of insulation material shall range between 0.04-0.07 gm/Cucm. Thermal conductivity (K value) at 40 C mean temperature and Service temperature limit shall be 0.039 W/M.K and -40C to 105C respectively. Water vapour permeability shall not be less than 7000 Kg/Pa/s.m. Water absorption shall not be more than 1.5% by weight. Insulation material shall have excellent ozone resistance properties. Excellent Thermal Stability. Insulation material shall be tested for the said properties in accordance with the relevant international codes including BS 874 Part 2 1986, DIN 52612(K Value), DIN 52615 (Water vapour permeability), BS 476 Part6 & Part7 (Flammability).

#### **Application**

Following procedure towards application of closed cell elastomeric insulation material having properties as mentioned above for roof exposed to sun shall be adopted :

- a. The underside of the roof slab surface to be thoroughly cleaned with wire brush and rendered free from bitumen or any time or any other coating that exists.
- b. Basic surface preparation using sand paper.
- c. Adhesive LOW VOC to be applied thereafter, preferably in the evening and be left for overnight.
- d. Finally next morning 16mm thick CSE insulation to be applied using adhesive with longitudinal and cross sectional joints glued properly and left open to facilitate inspection. Thereafter, CSE adhesive based tapes shall be applied on such longitudinal and transverse joints.
- e. Metal screws shall be fixed with dash fasteners at centre of each piece of CSE insulation with a GI cleat at bottom to give extra precaution in fixing of insulation.

## TECHNICAL CLAUSES

### Design Drawings

The drawings prepared by the Consultants are indicative only of the general arrangement of the entire installation. The Contractor shall follow these drawings and specifications in preparation of his shop drawings and subsequent installation. He shall check the drawings of other trades to verify space for his installation. The Contractor shall examine all relevant architectural, structural, plumbing, electrical and other services layout drawings before preparing the shop drawings for this installation, and report to the Architects/Consultants any discrepancy and obtain clarifications. Any changes found necessary for co-ordination and installation of this work with other services and trades shall be made with prior approval of the Architects/Consultants and Owner without any additional cost to the Owner.

### Site visit & Shop Drawings

The contractor shall visit the site and shall satisfy himself as to condition under which work is to be performed. No claim for consequences of ignorance at the later date shall be entertained. He should also check and ascertain the location of existing structure or equipment or any other situation which may effect the work.

The contractor shall submit five sets of shop drawings for air distribution system layout, Electrical panels & Equipment Layout drawings for approval of the Owners/Architects. Contractor shall also submit technical submittals for all major items including Split units, VRF system, Axial Fan, Propeller fan, inline fans, Copper/Drain piping , Ducting & GS sheet, grilles, diffusers, fire dampers, insulation material, electrical components etc. for the approval of the Owners/Architects.

Five sets of detailed shop drawings of all equipment and materials including ducting, piping, ventilation system, electrical work associated with the HVAC system required to complete the project as per specifications and as required by the Architect/ Consultant. These drawings shall contain details of construction, size, arrangement, operating clearances, performance characteristics and capacity of all equipment, also the details of all related items of work by other Contractors. Each item of equipment proposed shall be a standard catalogue product of an established manufacturer as per specifications.

If the Architect/Consultants makes any amendment in the above drawings, the contractor shall supply two fresh sets of drawings with the amendments duly incorporated, along with the drawings on which corrections were made. After final approval has been obtained from the Architect/Consultant, the Contractor shall submit a further six sets of shop drawings for the exclusive use of and retention by the Architect/Consultant. No material or equipment may be delivered or installed at the job site until the contractor has in his possession, the approved shop drawings for the particular material or equipment.

The shop drawings shall be submitted for approval sufficiently in advance of planned delivery and installation of any material to allow Architects/ Consultants ample time for scrutiny. No claims for extension of time shall be entertained because of any delay in the work due to his failure to produce shop drawings at the right time, in accordance with the approved CPM charts.

Samples, drawings, specifications, catalogues, pamphlets and other documents submitted for approval shall be in quadruplicate, each item in each set shall be properly labeled, indicating the specific service for which material or equipment is to be used, giving reference to the governing section and clause number of Specifications clearly identifying in ink the items and the operating characteristics. Data of a general nature shall not be accepted.

Approval rendered on shop drawings shall not be considered as a guarantee of measurements of building conditions. Where drawings are approved, said approval does not mean that drawings have been checked in detail nor does it any way relieve the Contractor from his responsibility or necessity of furnishing material or performing work as required by the contract.

Where the Contractor proposes to use an item of equipment other than that specified or detailed on the drawings which requires any redesign of the structure, partitions, foundations, piping, wiring or any other part of the mechanical, electrical or architectural layout, all such redesign and all new drawings and detailing required thereof, shall be prepared by the Contractor at his own cost and approved by the Architect/Consultant.

Where the work of the Contractor has to be installed in close proximity to, or will interfere with work of other trades, he shall assist in working out space conditions to make satisfactory adjustments. If so directed by the Architect/Consultant, the Contractor shall prepare composite working drawings and sections at a suitable scale not less than 1:50, clearly showing how his work is to be installed in relation to the work of other trades. If the Contractor installs his work before coordinating with other trades, or so as to cause any interference with work of other trades, he shall make all the necessary changes without extra cost to the Owner.

Within two weeks of approval of all the relevant shop drawings, the Contractor shall submit to the Architect/Consultant four copies of comprehensive itemized price list of recommended imported and local spare parts and tools covering all equipment and materials in this contract. The Owner shall make arrangements to procure these spare parts and tools.

### **Material & Workmanship**

All material used in work shall be of the best quality, obtainable and of approved list of manufacturers and shall conform to latest Indian Standard specifications unless otherwise stated.

### **Erection and Supervision**

The Contractor shall depute engineers from time to time of commencement of installation work to inspect all relevant foundation/fabrication and other necessary facilities to make improved action if felt necessary. However, a qualified experienced engineer to be deputed at site beginning from commencement of HVAC activities at site & till handing over of the project.

### **Testing and Commissioning**

On completion, the installation shall be tested for conformity with the stipulated performance specifications. Any defect, shortcoming detected in the system/material/workmanship shall be rectified by the Contractor to the entire satisfaction of the Consultants without any extra cost to the Owner. The installation shall be tested again after the removal of the defects and shall be commissioned only after approval by competent inspecting authority or the Consultants and the Owner. All tests shall be carried out in the presence of the Consultants and Owner's representative.

Testing and commissioning shall include furnishing all labour, materials, instruments etc. and incidentals necessary for complete testing of each component as per the specifications and manufacturer's recommendations.

Maintenance Services for the complete HVAC installation shall be provided during the defects liability period of one year.

The initial tests shall include but not be limited to the following:

- i. To operate & check the proper functioning of all electrically operated components like compressor motor, pumps, blowers, fans and other electrical motors etc.
- ii. To test and check the switchgears etc. and other safety & control devices ensuring proper functioning.
- iii. To check and balance the water flow in the water circuits so that flow rate through various equipments is as per design.
- iv. To check for leaks in the system & perform pressure testing.
- v. To check alignment of motors, Belts and other dynamic equipments.
- vi. To check all control settings to ensure smooth & proper functioning of the system.

### **Samples & Technical Submittals**

Samples, make or brand of all the materials must be got approved by the Architect/ Consultants/Owner in writing before they are brought to the site. Nothing extra shall be paid for presenting samples of any item as desired by Owner/Architect/Consultants.

Technical submittals of all the major items or as desired by the Architects/Consultants incorporating complete technical details in line with the tender specifications & catalogue prior to procurement of equipment/material shall be submitted for the approval.

#### **Contradiction between BOQ, Specifications and Drawings:**

In the event of conflicts between BOQ, Specifications and Drawings, the BOQ shall take precedence over the specifications and drawings. Keeping the general intent of the scope of work under said contract, the Architects/Consultants would interpret the requirements of the design intent & contract and their decision shall be final and acceptable to all concerns including the contractors.

**The equipments erected, commissioned at site should be suitable for maximum temperature of 50 degree C.**

#### **Mode of Measurement**

The mode of measurement for the various items, unless otherwise specified, shall be as follows:

##### Ducting

Payment for ducting shall be made on the basis of the external surface area of the ducting including all material and labour for installed duct.

The rates per Sft of the external surface shall include MS angle iron /GSS flanges, gaskets for joints, nuts & bolts , duct supports & hangers, vibration isolation pads or suspenders, dash fasteners, inspection doors, dampers, turning vanes, major hardwares such as thunder bolts, hinges, handles in extruded aluminium construction and any other item which will be required to complete the duct installation except external insulation and acoustic lining.

The external area shall be calculated by measuring the overall width and depth (including the corner joints) in the centre of the duct sections and overall length of each duct section from flange face incase of duct lengths with uniform cross section. Total area will be arrived at by adding up the areas of all duct sections.

In case of taper pieces average width and depth will be worked out as follows:

W1	=	width of small cross section
W2	=	width of large cross section
D1	=	depth of small cross section
D2	=	depth of large cross section
Average width	=	$(W1 + W2)/2$
Average depth	=	$(D1 + D2)/2$

Width and depth in the case of taper pieces shall be measured at the edge of the collar of the flange for duct sections fitted with angle iron flanges, otherwise at the bottom of the flange where flanges are of duct sheet.



For the circular pieces the diameter of the section mid-way between large and small diameters shall be measured and adopted as the mean diameter for calculating the surface at the taper piece.

For the face length of taper piece shall be the mean of the lengths measured face to face from the centre of the width and depth of flanges.

For the special pieces like bends, branches, and tees etc. same principle of area measurement as for linear lengths shall be adopted except for bends and elbows, the length of which shall be the average of the lengths of inner and outer periphery along with curvature or angle of the piece.

#### Duct Insulation

This item is provided separately for various thickness and shall be paid for on area basis of un-insulated duct. The area of the duct to be insulated shall be measured before application of insulation.

#### Grilles & Diffusers

All extruded aluminium grilles and diffusers shall be paid on the basis of actual measurement at site on area basis using neck size as base for diffusers having outer size less than 600mm. For 600mm x600mm size diffusers being installed in grid ceiling shall be counted at site and payment shall be made on unit basis. The minimum billing quantity shall be paid for 0.1 sqm.

#### Refrigerant Piping

Payment for refrigerant piping and condensate drain piping shall be made on the basis of linear measurement including all material and labor for installed pipes. The linear rate per meter/feet for each nominal diameter shall include all pipe fittings except refnet joints, pipe supports & hangers, vibration isolation arrangement, closed cell elastomeric insulation material and any other item required to complete the pipe installation except valves of any kind and strainers.

**TECHNICAL DATA FOR HVAC TO BE FILLED UP BY THE VENDORS****VARIABLE REFRIGERANT VOLUME SYSTEM****Outdoor Unit**

- |    |                    |   |
|----|--------------------|---|
| 1. | Manufacturer       | - |
| 2. | Capacity (HP)      | - |
| 3. | COP                | - |
| 4. | Power Consumption  | - |
| 5. | Sound Level (db)   | - |
| 6. | No. of compressor  | - |
| 7. | Type of compressor | - |
| 8. | Overall Dimensions | - |
| 9. | Operating Weight   | - |

**Indoor Unit**

- |     |                                 |   |
|-----|---------------------------------|---|
| 1.  | Manufacturer                    | - |
| 2.  | Type of Unit                    | - |
| 3.  | Model No. of Unit               | - |
| 4.  | Sound Level (db)                | - |
| 5.  | Airflow Min/Max (CFM)           | - |
| 6.  | Cooling Capacity (TR)           | - |
| 7.  | Overall Dimensions              | - |
| 8.  | Operating Weight                | - |
| 9.  | Power Characteristics (3Ph/1Ph) | - |
| 10. | Electrical Power Requirement    | - |

**Refrigerant Piping**

- |    |                      |   |
|----|----------------------|---|
| 1. | Material of Piping   | - |
| 2. | Material of Fittings | - |

3. Make of Piping & Fittings -

**INLINE FANS**

1. Manufacturer -
2. Type -
3. Model No. of Unit -
4. Sound Level (db) -
5. Airflow (CFM) -
6. Static Pressure (mm WG) -
7. Power Characteristics (3Ph/1Ph) -
8. Electrical Power Requirement -

**GS SHEET & DUCT WORK**

1. Manufacturer of GI Sheet -
2. Class -
3. Zinc Coating (gm/Sqm) -
4. Thickness -
5. Manufacturer of factory fabricated duct -

**GRILLES, DIFFUSERS AND DAMPERS**

1. Manufacturer -
2. Material -
3. Gauge -

**FIRE DAMPERS**

1. Manufacturer -
2. Material -
3. Gauge -
4. Manufacturer of Actuator -

**EXTERNAL THERMAL INSULATION OF DUCTS**

- |    |                                |   |
|----|--------------------------------|---|
| 1. | Manufacturer                   | - |
| 2. | Material                       | - |
| 3. | Density                        | - |
| 4. | Thickness                      | - |
| 5. | Thermal Conductivity (K value) | - |
| 6. | Class of Insulation            | - |

**ACOUSTIC LINING OF DUCT**

- |    |                                |   |
|----|--------------------------------|---|
| 1. | Manufacturer                   | - |
| 2. | Material                       | - |
| 3. | Density                        | - |
| 4. | Thickness                      | - |
| 5. | Thermal Conductivity (K value) | - |

**COPPER PIPE INSULATION**

- |    |              |   |
|----|--------------|---|
| 1. | Manufacturer | - |
| 2. | Material     | - |
| 3. | Density      | - |
| 4. | Thickness    | - |

**TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORKS****1. INTERNAL WIRING:****1.1 System of wiring**

The system of wiring shall consist of single core PVC insulated copper conductor wires in PVC conduits concealed or exposed as called for on the drawings.

**1.2 General**

Prior to laying and fixing of conduits, the Contractor shall carefully examine the drawings indicating the layout of conduits satisfy himself about the sufficiency of number and size of conduits, location of junction boxes, sizes and location of switch boxes and other relevant details. Any discrepancy found in the drawings shall be brought to the notice of the Consultant Architect. Any modifications suggested by the Contractor shall be got approved by the Consultant Architect before the actual laying of conduits is commenced.

**1.3 Materials**

PVC Conduit: PVC conduits shall be extruded conduits. The minimum wall thickness shall be 2mm for conduits upto 25 mm diameters and 2.5 mm wall thickness for conduits above 25 mm diameter.

**1.3.1 Connections**

All joints shall be fully water tight and sealed by applying PVC jointing compound as per manufacturer's recommendation. Junction boxes and running joints shall be provided at suitable places to allow for subsequent extension, if any, without undue dismantling of conduit system. As far as possible, diagonal run of conduits shall be avoided.

Conduit system shall: be erect and straight as far as possible. Separate conduits shall be run for '15amps' power outlet wiring. The joints in conduit shall be free of burrs to avoid damage to installation of conductors while pulling them through the conduit.

**1.4 Bends in Conduit**

Where necessary, bends or diversions may be achieved by means of bends and/or circular inspection boxes with adequate and suitable inlet and outlet connections. In case of recessed system each junction box shall be provided with a cover properly secured and flush with the finish wall surface, so that the conductors inside the conduit are easily accessible. No bend shall have radius less than 12 ½ times the outside diameter of the conduit.

**1.5 Fixing Conduits**

Conduits and junction boxes shall be kept in position while the walls, slabs and floor are under construction and proper holdfasts shall be provided. Conduit: shall be so arranged as to facilitate easy drawing of wires through them. Adequate junction boxes of approved quality and size shall be provided. Where conduits cross expansion joints in the building, adequate expansion fittings or other approved devices shall be used to take care of any relative movement. All conduits shall be installed so as to avoid steam and hot water pipes. Conduit stubs in floor slabs shall be kept as short as possible above finished floor level in order to avoid any damage to them. After the conduits, junction boxes, outlet boxes and switch boxes are installed in position, their outlet shall be properly plugged or covered so that water, mortar, insects or any other foreign matter does not enter into the conduit system.

Where called for, surface conduits shall be fixed by spacer bar saddles at intervals not more than 1000 mm and 100 mm from both sides of fitting or accessories.

The saddles shall be 3 mm x 19 mm galvanised mild steel flat, properly treated, securely fixed to support by means of rawl bolts and brass machine screws. Conduit in chases shall be avoided. Where unavoidable, conduit shall be fixed by means of staples not more than 600 mm apart and the chases filled with cement mortar 1:6. Cutting of horizontal chases is prohibited. All socketed connections shall be made fully watertight by the use of Topolin or as suggested by manufacturer PVC conduits.

#### 1-6 Switch outlets

All outlets for switches, sockets and other receptacles shall be equipped with rust proof outlet boxes of sheet steel fabricated from 16 SWG sheet as called for, having smooth external and internal surface to true finish. Where called for, outlet boxes for receiving switches and fan regulators shall be fabricated to approved sizes and covered with 3/16th inch thick decorative laminate sheet.

Outlets exposed to the weather shall be fully weather tight, complete with rubber gasketed covers. Outlets where used shall be painted with two coats of bituminous paint before they are fixed in position, outlet boxes fixed in concrete shall have a minimum depth of 75 mm and the wall thickness of the boxes and spouts shall not be less than 2mm.

#### 1.7 Inspection Boxes

Rust proof boxes of cast iron and of required size, having smooth external and internal finish shall be provided to permit periodical inspection and to facilitate removal and replacement of wires when required. Inspection boxes shall be mounted on walls/ ceiling finished surface and shall be provided with 3/16<sup>th</sup>) inch thick decorative laminate sheet cover to the box with brass screws. Adequate ventilation holes shall be provided in the inspection box covers.

#### 1.8 Telephone system

Conduit, junction boxes, draw boxes, outlet boxes and covers to boxes for telephone system shall be as described under relevant clauses elsewhere in these specifications. The conduit for telephone wiring shall be of specified size and shall terminate at outlets as indicated on the drawings. All telephone system conduits shall have '14' SWG galvanized steel pull wires installed.

### 1.9 Conductors

All PVC insulated copper conductor wires shall conform in all respects to Indian standards.

### 1.10 Bunching of wires

Wires carrying current shall be so bunched in that the outgoing and return cables are drawn in conduit. Cables originating from two different shall not be run in the same conduit.

### 1.11. Drawing conductors

The drawing and jointing of copper conductor wires and cables shall be executed with due regard to the following precautions:

While drawing insulated wires into the conduits, care shall be taken to avoid scratches and kinks which cause breakage of conductors. There shall be no sharp bends. Insulation shall be shaved off like sharpening of a pencil and it shall not be removed by cutting it square of wiring. Strands of wires shall not be cut for connecting terminals. The terminals shall have sufficient cross sectional area to take all strands and shall be thinned. The connecting brass screws shall have flat ends. All looped joints shall be connected through terminal blocks / connectors. The pressure applied to tighten terminal screws shall be just adequate, neither too much nor too less.

Conductors having nominal cross-sectional area exceeding 4 sq.mm shall always be provided with cable sockets. At all bolted terminals, brass flat washers of large area and approved steel spring washers shall be used. Brass nuts and bolts shall be used for all connections.

Only certified wiremen and cable jointers shall be employed to do jointing work. All wires and cables shall bear the manufacturer's label and shall be brought to site in new and original packaging. For all internal wiring, PVC insulated wires of 250/440 volts grade shall be used. The sub-circuit wiring for points shall be carried out in looping in system and no joint shall be made.

## 2. SWITCHES, RECEPTACLES & FIXTURES

### 2.1 Switches

All 5/15 amp switches shall be piano type switcher 220 V AC. All switches shall be fixed inside the switch boxes on the cover plates with Brass machine screws and nuts leaving ample space at the back and sides for

accommodating wires. Flush mounted fan regulators shall be fixed inside the switch boxes over the cover plate with brass machine screws and nuts. The switch controlling the light point or fan shall be connected on the phase wire of the circuit. Switches shall be located at 1200 mm above floor level unless otherwise indicated.

**Cover Plates:** All switch receptacles and telephone system outlets in the walls shall be provided with white urea power pressed cover plate of standard configuration of switches manufacturer. The cover plates shall be secured to the box with counter sunk brass screws.

The switch controlling the point outlets and socket outlets shall be on the Phase wire of the circuit. The earth terminal of the socket shall be connected to the earth terminal provided inside the box by means of 2.5 sq mm insulated copper wires. No joints are allowed in the length of the conductors. If the use of joint connections is unavoidable due to any specific reasons, prior permission in writing shall be obtained from the Architect/Elect. Consultant/Engineer in charge before the use of such connections. No wire shall be drawn into any conduit, until all work, of any nature that may cause injury to the wire, is completed. Care shall be taken in pulling the wires so that no damage occurs to the installation of the wire. Before the wires are drawn into the conduits, the conduits shall be thoroughly cleaned of moisture, dust, dirt or any other obstruction by forcing compressed air through the conduit. The minimum size of PVC insulated copper conductor wires for all sub circuit shall be as follows. Wiring for lights, exhaust fans and ceiling fan points shall be 2.5 Sq cm. The two 15 amp power outlets shall be grouped, in one circuit where: called for. Wiring for the first power outlet shall be carried out with 4 sq. mm PVC insulated copper conductor wires. Wiring for the second power outlet shall be carried out with 4 sq mm. PVC insulated copper conductor wires. All power outlets shall be provided with 2.5 sq mm insulated copper earth wires.

### 2.3 Colour code of conductors

Colour code shall be maintained for the entire wiring installation: Red, Yellow, Blue for the three phases, Black for neutral, Green for earth.

### 2.4 Ceiling fans

All ceiling fans shall be provided with suspension arrangements in the concrete slab/roof numbers. It is the duty of the contractor to make those provisions at the appropriate stage of construction. The fan hook boxes shall be fabricated from 16 SWG sheet steel: in Hexagonal shape and provided with 12 mm dia. MS rod bent to shape. Exhaust fans shall be fixed at locations shown on the drawings. They shall be wired to a plug socket and at a convenient location near the fans. All switch and outlet boxes, fan and light fittings shall be bonded to earth through copper wire properly screwed on to the body to make an effective contact.

## 3. CABLES

### 3.1 General



MV cables shall be supplied, inspected, laid, tested and commissioned in accordance with drawings, specifications relevant Indian standard specifications, and cable manufacturer's instructions. The cable shall be delivered at site on original drums with manufacturer's name clearly written on the drums.

The recommendation of the cable manufacturer with regard to jointing and sealing shall be strictly followed.

### 3.2 **Materials**

The MV cables shall be PVC insulated Aluminium conductor armoured cable conforming to IS:1554 laid in trenches, ducts and underground as shown on drawings.

### 3.3 **Inspection**

All cables shall be inspected upon receipt at site and checked for day age during transit.

### 3.4 **Cable termination**

Cable terminations shall be done in terminal cable box using cable glands. All pipe sleeves shall be sealed with sealing compound.

### 3.5 **Bonding of cables**

Where a cable enters any piece of apparatus it shall be connected to the casing by means of an approved type of armoured clamp and gland. The clamps must grip the armouring firmly to the gland or casing, so that no undue stress passed on to the cable conductors due to vibrations. The gland or cone shall be capable of effecting a good electrical bond between both the armouring and the casing.

### 3.6 **Laying cables**

Cables shall be laid by skilled and experienced workmen using adequate rollers to minimize stretching of the cable. The cable drums shall be placed on jacks before unwinding the cable, Great care shall be exercised in laying cables to avoid forming kinks, the drums shall be unrolled and cables run over wooden rollers in trenches at intervals not exceeding 2 meters. Cable shall be laid at a depth of 0.75 meters below ground level.

A cushion of sand not less than 80 mm shall be provided both above and below the cable and joint boxes and other accessories. Cables shall not be laid in the same trench or along side of a waterman. The cables shall be laid first in excavated trench and the layer of 80 mm sand shall be spread over the cable. The cable then shall be lifted and placed over the sand bed. The second layer of 80 mm sand shall then be spread over the cable. The relative position of the cables, laid in the same trench shall be preserved and the cables shall not cross each other as far as possible. At all changes in directions in horizontal and vertical planes, the cable shall be bent smooth

with a radius of bend not less than 12 times the diameter of cable. Minimum 3 meters long loop shall be provided at both sides of every straight joint and 5 meters at each end of cable. Distinguishing marks shall be made on the cable ends for identification. Insulation tapes of appropriate voltage and in Red, Yellow and Blue colours shall be wrapped just below the sockets for phase identification.

### 3.7 Protection of cables

The cables shall be protected by bricks on the top layer of sand for the full length of underground cable. Where more than one cable is running in the same trench, the bricks shall cover all the cables and shall project a minimum of approximately 80 mm on either side of the cables.

Cables under road crossings and any other places subject to heavy traffic shall be protected by running them through Hume pipe of suitable size. The depth of the hume pipe shall be 1 meter below the finished road level.

### 3.8 Excavation & Back Filling:

All excavation and brick fill including timbering, shoring and pumping required for the installation of the cables shall be carried out by the Contractor in accordance with the drawing and requirements laid down elsewhere. Trenches shall be true to line and grades. Back fill for trenches shall be filled in layers not exceeding 150 mm. Each layer shall be properly rammed and consolidated before laying the next layer. The Contractor shall restore all surfaces, roadways, side walks, curbs, walks or other works cut by excavation to their original conditions, satisfactory to the Architect including disposal of surface soil as directed.

### 3.9 Testing of cables

Prior to laying cables, the following tests shall be carried out:

- a. Insulation test between phases, phase and earth length of cable before and after jointing.

On completion of cable laying work, the following test shall be conducted in the presence of the Architect/consultant.

- a. Insulation Resistance Test (Sectional and overall)
- b. Continuity Resistance Test
- c. Sheathing continuity Test
- d. Earthing Test.

All tests shall be carried out in accordance with relevant Indian Standard Code of Practice and Indian Electricity Rules. The Contractor shall provide necessary instruments, equipment and labour for conducting the above test and shall bear all expenses in connection with such tests. All tests shall be carried out in the presence of the Architect/Consultant.

### 3.10 Markers & Warning Plates

Approved CI cable markets shall be provided along the route of the cables at every 30 meters distance and at both ends of road crossing, indicating "MV CABLES". Special CI markers shall be provided at all buried cable joints indicating "ELECTRICAL CABLE JOINT".

#### 4. DISTRIBUTION BOARDS

The Distribution Panel and Distribution boards shall be suitable for operation on 3 phase/single phase 415/230 volts, 50 cycles neutral grounded at transformer and short circuit level not less than 5 MV 415 volts.

The Distribution panel/boards shall comply with the latest edition of relevant Indian Standards and Indian Electricity Rules and Regulations.

##### 4.1 Construction

The Distribution panels / boards shall be metal enclosed sheet steel cubical, indoor, dead front, floor mounting / wall mounting type. The distribution boards shall be totally enclosed, completely dust and vermin proof. Gaskets between all adjacent units and beneath all covers shall be used to render the joints dust proof. Distribution boards shall be preferably arranged in multitier. All doors and covers shall be fully gasketed with foam rubber and / or rubber strips and construction of Distribution boards shall be 16 SWG thick and shall be folded and braced as necessary to provide a rigid support for all components. Joints of any kind in sheet metal shall be seam welded, all welding slag grounded off and welding pits wiped smooth with plumber metal.

All panels and covers shall be properly fitted and square with the frame and holes in the panel correctly positioned. Fixing screws shall enter into holes tapped into an adequate thickness of metal or provided with bank nuts. Self threading screws shall not be used in the construction of distribution boards.

Knockout holes of appropriate size and number shall be provided in the distribution board in conformity with the location of incoming and outgoing.

##### 4.2 Bus Bar Connections

Rectangular cross section suitable for full load current for MCB's shall be provided on the phase of live conductors of each circuit, and a neutral bar for earthed neutral. The individual banks of MCB's shall be detachable. Phase separation barriers of 3 mm thick Bakelite sheet shall be provided between. There shall be ample space behind the fittings to accommodate all the wiring. All the internal wiring of distribution boards shall be concealed behind 3 mm thick Bakelite sheet. All the distribution boards shall be completely factory wired, read for connections. All the terminals shall have adequate current rating and size to suit individual feeder requirements. Each circuit shall be clearly numbered from left to right to correspond with the wiring diagram. All the switches and circuits shall be distinctly marked with a small description of the service installed.

##### 4.3 Switch Fuse

The switch fuse units shall be 3 pole double break type suitable for load duty quick make and break action. Separate neutral link shall be provided in the switch. All switch fuse units shall be provided with hinged doors duly interlocked with operating mechanism, so as to prevent opening of the door when the switch is in "ON" position and also to prevent closing of the switch when the door is not properly secured. All contacts shall be silver plated and all live parts shall be shrouded. High rupturing capacity (HRC) fuse links shall be provided with switch fuse units and shall be in accordance with IS:2208 and having rupturing capacity not less than 31 MVA at 415 volts. HRC fuse links shall be provided with visible indicators to show that they have operated.

#### 4.4 Earthing

Copper earth bars of 25 mm x 3 mm shall be provided for the distribution panel for the full length of the panel and connected to the frame work provisions shall be made for connection from this earth bar to the main earthing bar on both sides of the distribution panel.

#### 4.5 Painting

All sheet steel shall undergo a process of degreasing, pickling in acid cold rinsing, phosphating, passivating and then sprayed with a high corrosive resistant primer. The primer shall be baked in an oven. The finishing treatment shall be by application of two coats of synthetic enamel paint of approved colour and stoved.

#### 4.6 Labels

Engraved PVC labels shall be provided on all incoming and outgoing feeder switches. Circuit diagram showing the arrangement of the circuit inside the distribution board shall be pasted on inside of the panel door and covered with transparent laminated plastic sheet. All the distribution boards shall be subject to tests specified in relevant Indian Standards and test certificate shall be furnished.

### 5.1 EARTHING

#### 5.1 Earthing

All the non-current carrying metal parts of electrical installation shall be earthed properly. All metal conduits, trunking, cable sheaths, switch gear, distribution fuse boards, lighting fittings and all other parts made of metal of specified earthing conductors to an efficient earth electrode. All earthing will be in conformity with the relevant provision of rules 33 and 61 of the Indian Electricity Rules 1956, and Indian Standard Specifications IS:3043.

#### 5.2 Electricity Conductor

Every earthing conductor shall be of bare G.I./Copper/insulated coppers called for on drawings / specified in bills of quantities, and shall be protected against mechanical injury or corrosion.

### 5.3 Sizing of Earthing Conductors

The cross sectional area of earthing conductor shall be as called for on the drawing.

### 5.4 Construction of Earthing Conductors

Main earthing conductors shall be taken from the earth connectors at the main switch boards to an earth electrode with which the connection is to be made. Sub-main earthing conductors shall run from the main switch board to the sub-distribution boards.

Circuit earthing conductors shall run from the exposed metal of equipment and shall be connected to any point on the earthing conductors, or its distribution board.

### 5.5 Earthing stations

Earthing electrode shall consist of a C.I. pipe(12 mm wall thickness) of 100 mm dia and 3.7 meters long. The electrode shall be buried vertically in the ground as far as practicable below permanent moisture level with its top not less than 200 mm below ground level. The electrode shall be one piece and no joints shall be allowed in the electrode. Wherever possible earth electrodes shall not be located in proximity to a metal fence. It shall be kept clear of the building foundations and in no case shall be nearer than 2 meters from the outer face of the wall. The pipe electrode shall be kept vertically and surrounded with 150 mm thick layer of charcoal dust and salt mixture upto a height of 2.5 metres from the bottom. At the top of the electrode a funnel with a mesh shall be provided for watering the earth. The main earth conductor shall be connected the electrode, just below the tunnel, with proper terminal lugs and check nuts. The tunnel over the C.I. pipe and earth connection shall be housed in a masonry chamber, approximately 300 mm long, 300 mm wide and 300 mm deep. The masonry chamber shall be provided with a cast iron cover resting over a CI frame embedded in masonry.

### 5.6 Earth Connections

All metal clad switches and other equipment carrying single phase current shall be connected to earth by a single connection. All metal clad switches carrying medium voltage shall be connected to earth by two separate and distinct connections. The earthing conductors inside the building wherever exposed shall be properly protected from mechanical injury by running the same in G.I. pipe of adequate size. The earthing conductor shall be painted to protect it against corrosion.

Earthing conductor outside the building shall be laid 600 mm below the finished ground level. The overlapping in GI strips in joints shall be riveted. Lugs of adequate capacity and size shall be used for all termination of conductor wires above 6 sq.mm size. Lugs shall be bolted to the equipment body to be earthed after the metal body is cleaned of paint and other oily substance.

## 5.7 Resistance to Earth

The resistance of each earth system shall not exceed 1.0 ohm.

## 6. TESTING

### 6.1 General

After the completion of the work, the entire installation shall be subject to following tests:

1. Wiring continuity test
2. Insulation continuity test
3. Earth continuity
4. Earth Resistivity Test

Besides the above tests any other test specified by the local authority shall also be carried out. All tested and calibrated instruments for testing, labour and materials and incidentals necessary to conduct the above tests shall be provided by the contractor at his own cost.

### 6.2 Testing of wiring

The entire wiring system shall be tested for continuity of circuits, short circuits and earthing after wiring is completed and before energising by the Contractor in the presence of the Architects.

### 6.3 Insulation Resistance Test

The insulation resistance shall be measured by applying between earth and the whole system of conductors or any section thereof, with all fuses in place and all switches closed and except in concentric wiring all lamps in position of both roles of the installation otherwise electrically connected together, a direct current pressure of not less than twice the working pressure provided that it does not exceed 660 volts for medium voltage circuits. Where the supply is derived from AC- three phase system, the neutral pole of which is connected to earth, either direct or through added resistance, pressure shall be deemed to be that which is maintained between the phase conductor and the neutral. The insulation resistance measured as above shall not be less than be carried out after removing all metallic connections between the two pole of the installation and in these circumstances the insulation resistance between conductors of installation shall not be less than that specified: above. The insulation resistance between the case of frame work of housing and power appliance and all live parts of each appliance shall not be less than that specified in the relevant Indian Standard specification or where there is no such specification shall not be less than half a megohm.

### 6.4 Earth continuity Test

The earth continuity conductor metallic envelopes of cables shall be tested, for electric continuity and the electrical resistance of the same along with the earthing lead but excluding any added resistance or earth leakage circuit breaker measured from the connection with the earth electrode to any point in the earth continuity conductor in the completed installation shall not exceed on mega ohm.

**6.5 Testing of Polarity of Non-linked single pole switches**

In a two wire installation a test shall be made to verify that all non-lined single pole switches have been fitted in the same conductor throughout and such conductor shall be labelled or marked for connections to an outer or phase conductor or to the non-earthed conductor of the supply. In the three or four wire installation a test shall be made to verify that every non-linked single pole switch is fitted in a conductor to one of the other or phase conductor of the supply. The entire installation shall be subject to the final acceptance of the consultant as well as the local authorities.

**6.6 Earth Resistivity Test**

Earth resistivity test shall be carried out in accordance with Indian Standard code of practice for earthing IS: 3043. All tests shall be carried out in the presence of Architect.

**List of Approved makes - As given below or as per architect's approval unless specified in bid document**

<b>A</b>	<b>MATERIAL</b>	<b>MANUFACTURER/BRAND NAME</b>
	<b>GENERAL</b>	
1	Anti termite chemical (	NOCII
2	Adhesive	For wood-Fevicole-SH/Movicole HV
3	Fitting Hardware	EBCO( Earl Bihari ),
4	Locks	Godrej, Golden
5	Laminate	1.5 mm thk. Greenlam, Century 1.0mm thk.
6	Paints	Asian, Berger, Dulux, Shalimar (Bison) British Paints, Asian Paints
7	Wood preservations	Century/Duro/Green/Alpro
8	Plywood	Century/Duro/Green/Alpro
9	Flush Doors	Century/Duro/Green/Alpro
10	Glass	Modi float glass
11	Prelaminated Particle Board	Archid, Nova pan, Greenlam,
12	Softboard	Sitatex
13	Cement	L&T, Ambuja, Bangur, Birla, JK
14	Tiles	Kajaria, Nitco, Marbonite
15	Paint ( Distemper / Plastic	Berger, Asian, Shalimar
16	Vertical Blinds	Mac/Vista levelor/ as approved
17	False Ceiling	Aerolite/Gvproc/Daiken/Armstrong
18	Aluminium Composite Panel	Eurobond, Alomax, Sunbond
19	Acrylic solid surface	Corian, Hanex, LG,
20	Locks, Hardware	Hettich/Kich/Dorset/Doors
21	Vitreous China Sanitaryware	HINDWARE/CERA
22	C.P fittings	JAQUAR/GEM
23	C.P Bottle Trap	KINGSTON/JAQUAR
24	Bath Room C.P accessories	JAQUAR/ESS ESS
25	G.I. and M.S. pipes	JINDAL HISSAR
26	CPVC	AJAY/ASTRA/SUPREME
27	False Ceiling	Aerolite/Gvproc/Daiken/Armstrong
28	Chairs, SS Sofa,	Godrej, Featherlite
29	Modular Furniture	Godrej, Wipro, HNI BP Harmony Systems



**B ELECTRICAL**

1	LT Panels	CPRI type test passed vendor
2	MCCB	L&T, SEIMENS, MERLIN GERIN (FRANCE)
3	MCB, RCCB	LEGRAND, L&T, MERLIN GERIN.
4	CONDUIT	BEC, AKG
5	COPPER WIRE	SKY TONE, RALLISION, PHINOLEX, RAJNIGANDHA.
6	POWER CABLES	CCI, HAVELLS, RALLISION, GEMS CAB.
7	FITTING	PHILIPS, CROMPTION
8	SWITCH &	MK, ANCHOR ROMA.
9	CABLE END	COMMETT
10	THIMBLES	DOWELLS
11	TELEPHONE	KRONE/AMP/AVAYA
12	XLPE / PVC	Skytone/Polycab/Glostar/Havells/KEI
13	Telephone	Skytone / Polycab/KEI / Havells
14	Lights Fittings	Wipro, Philips, Bajaj

**C FIRE FIGHTING**

1	Jindal hissar	Jindal hissar / Surva
2	Butterfly	SANT/C & R / KSB
3	Pressure	C & R / Advance
4	Pressure	Indfos or approved equal
5	Branch Pipe	MINIMAX / New age
6	Fire	MINIMAX / Fire axe/Safe
7	Flow Switch	SYSTEM SENSOR/ RAPID
8	Ball Valve	SANT / ZOLOTO
9	Sprinkler	Tyco / VKing / H.D.

**D:- HVAC EQUIPMENT & MATERIALS**

<b>S. No.</b>	<b>EQUIPMENT AND MATERIAL</b>	<b>ACCEPTABLE MAKE</b>
<b>A.</b>	<b>EQUIPMENT</b>	
4.	Ductable/Non-Ductable Split Units	Trane / O-General / Mitsubishi Electric / Daikin
5.	Compressor for Split Units	Trane / O-General / Mitsubishi Electric / Daikin
6.	VRF System	Daikin/ Mitsubishi Electric /Trane
7.	Axial Flow Fans	Green Heck/Kruger/ Humidin/Nicotra
8.	Motors	ABB/Siemens/Bharat Bijli
9.	V-Belts	Fenner India/Dunlop
10.	Inline Fans	Systemair/Kruger/Caryair e/ostberg
11.	Propeller Fans	Alstom Marathan/Crompton/Cary aire
12.	Vibration isolators/suspenders	Resistoflex/Easyflex
13.	Voltage Stabilizer	Bluebird/Microtech/Logic stat
14.	Condensate drain Pump	Aspen
<b>B.</b>	<b>PIPING</b>	
1.	Welding Rods	Advani/L&T
2.	Copper Refrigerant Piping/Fittings	Rajco/KaranMetal/Hindus tan
3.	UPVC Pipe/Fittings	Finolex/Supreme/Prakash
<b>C.</b>	<b>DUCTWORK AND AIR TERMINALS</b>	
1.	GS Sheet	SAIL/Tata Steel /Lloyd/Jindal

<b>S. No.</b>	<b>EQUIPMENT AND MATERIAL</b>	<b>ACCEPTABLE MAKE</b>
2.	Factory Fabricated Ducts & TDC flanges	Zeco/Rolastar/Techno
3.	Round/Spiral Factory Fabricated Ducts	GP Spira Duct
4.	Pre Filters	Purolator/Thermodyne/Spectrum
5.	Extruded Aluminium Grilles & Diffusers	Tristar /Caryaire/Ravistar
6.	Dash Fasteners	HILTI/Fischer
7.	Intake Louvers	Tristar /Caryaire/Ravistar
8.	Grille/Diffuser/Al.Dampers/Spigots & Air Transfer Grille	Tristar /Caryaire/Ravistar
9.	Zero Leakage Ex. Al dampers	Tristar /Caryaire/Ravistar
10.	Smoke cum Fire Dampers	Tristar /Caryaire/Ravistar
11.	Actuators for Fire Dampers & Motorised Dampers	Belimo(Swiss), Joventa (Swiss), Siemens
12.	Flexible connections for fan outlet	Tristar/Caryaire/Resistoflex
13.	Flexible Ducts	UP Twiga/Caryaire/GP Spiro
14.	Pipe/Duct Support	Hitech/Griipple/Diamond
<b>D.</b>	<b>INSULATION</b>	
1.	Fibre Glass	UP Twiga/Owens Corning
2.	Closed Cell Elastomeric Insulation	Armacell
3.	Open Cell Elastomeric Insulation	Armacell
4.	Expanded Polystyrene	Beardsell/Toshiba
5.	RP Tissue	UP Twiga/Owens Corning
6.	Adhesive for application of closed cell insulation (SR-505)	Pidilite/ Aroseal Glue/Armaflex/K Flex
7.	Glass cloth & UV protection paint	Paramount/Armaflex

**E. ELECTRICAL  
Components****Meters/Indicators**

- |    |  |                              |
|----|--|------------------------------|
| 1. | Ammeters/Volmeters (Digital Type)        | L&T/Rishab/AE/Enercon/Secure |
| 2. | Indicating Lamps (LED Type)/Push Buttons | Siemens/ESBEE/L&T            |
| 3. | Current Transformer                      | AE/L&T/EE/AVK-SEGC           |
| 4. | Selector Switches                        | Salzer (I&T), Kaycee         |

REGIONAL OFFICE GURUGRAM , 2<sup>ND</sup> FLOOR, AGGARWAL CORPORATE TOWER, 23,  
RAJENDRA PLACE, NEW DELHI , 011-25825287 , 9899510852  
[ssd.rodelhincr@unionbankofindia.bank](mailto:ssd.rodelhincr@unionbankofindia.bank) ,  
[rh.rodelhincr@unionbankofindia.bank](mailto:rh.rodelhincr@unionbankofindia.bank)

VOLUME - II

PROPOSED INTERIOR & FURNISHING WORKS AT

# THE BANK'S REGIONAL OFFICE AT , UNIT NO.602,6TH FLOOR GLOBAL BUSINESS  
SQUARE,BUILDIN NO 32, SECTOR-44, INSTITUTIONAL AREA GURUGRAM,122003

PRICE BID AND BILL OF QUANTITIES

Name of the Contractor: \_\_\_\_\_

OWNER:

REGIONAL OFFICE GURUGRAM  
UNION BANK OF INDIA,  
Second Floor,  
Aggarwal Corporate Tower,  
Rajendra Place,  
New Delhi - 110008

ARCHITECT CONSULTANT:

M/s. VASTUMANDAL  
F-328,3<sup>RD</sup> FLOOR, LADO SARAI,  
NEW DELHI - 110030

<b>BILL OF QUANTITIES</b>						
<b>A CIVIL WORK:</b>						
<b>S.No.</b>	<b>Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Rate (Rs)</b>	<b>Rate (in words)</b>	<b>Amount (Rs)</b>
	<b>Notes :-</b>					
	Rates are for working at all heights including cost of centering ,shuttering and scaffolding unless otherwise mentioned					
	All internal woodworks including inner surface of plywood shall be treated with antitermite wood preservative against borere pests aand white ants					
	Wherever basic prices are given they shall be inclusive of all taxes ex Godown/Shop in Delhi NCR					
<b>I</b>	<b>DISMANTLING</b>					
	<b>Note:-</b>					
	The rate for all demolishing and dismantling to include carting and disposing of the debris outside the site at Municipal Dumping grounds.					
	Necessary propping, shoring and/ or underpinning shall be provided for the safety of the adjoining work or property, which is to be left in tact, before dismantling and demolishing is taken up and the work shall be carried out in such a way that no damage is caused to the adjoining work or property.					
	<b>1.1</b> Dismantling / Demolishing Brick walls of various thickness. Disposal of unserviceable material to a place permitted by the municipal authorities including making good any damages done to the structure complete. No unserviceable dismantled material will be allowed to be accumulated at site.	CUM	0.5			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
1.2	<b>MAKING CUT OUT IN MASONRY WALL :-</b> Making openings in walls for windows, AC ducting etc. without damaging the surroundings and making good the affected areas with smooth plaster in mix proportion 1:4 finished in paint , inclusive of lintel support in Cuddapah/Sand stone of thickness 25mm to be provided where ever required. Cost to be inclusive of filling the excess opening with brick bats and finishing the same in smooth plaster in cement mortar 1:4, proper curing, giving supports to walls etc., complete.	SQM	5			
1.3	<b>CORE CUTTING :-</b> Providing and making openings of following Sizes in RCC slab of thickness 200mm, with core cutting machine inclusive of filling of core cut with fire retardant sealant of approved make as per the manufacturer's specification, cleaning, waterproofing the sides of the cut area and providing waterproofing guarantee etc complete. Note: The contractor should determine the location of beams/post tensioned tendons before carrying out the operation, getting prior approval from the builder/structural consultant and cutting all reinforcement by gas cutting machine or as directed etc., complete. As mention by the Architect.	EACH	6			
	<b>TOTAL OF DISMANTLING</b>					
<b>II</b>	<b>SUPER STRUCTURE</b>					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
2.1	Brick Wall in cement mortar 1:4 (1 cement : 4 coarse sand) in superstructure, including scaffolding, cutting, plumbing, leveling, curing etc. with bricks of class designation 75. All complete as per drawing, approval and instructions of the Architect.					
a)	115mm thick with 2 nos. M.S. Reinforcement bars 6mm dia as hoop in every 4 <sup>th</sup> coarse. (Cost of binding wire for reinforcement shall be borne by the contractor and shall not be measured for payment).	SQM	115			
2.2	Providing and fixing RCC (grade - M20) lintel including steel work over doors / windows as per design of size 150 x 100mm with 0.2mt bearing on both sides of door including centering and shuttering and reinforcement @ 100 kg per cubic meter. All complete as per approval and instructions of the Architect.	CUM	0.1			



S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
2.3	<b>WATERPROOFING</b> :- Providing and applying Acrylic Polymer Modified Flexible Cementitious Coating [approved systems : (1) SIKA Top Seal 107 (2) FOSROC Brush bond in 2 or 3 coats as per manufacturers' specification and as approved by the Engineer-in-charge to the sunk slab and walls up to minimum 1 M height, complete. The treatment to include cleaning and wire-brushing the concrete surface, treating all the cracks (wider than hairline), construction joints and honeycombs by grouting with specialised non-shrink cementitious compound, grouting the annular space between the pipe and concrete / masonry, providing and applying a protective 15 mm thick, CM 1:4 plaster admixed with integral waterproofing compound, curing, at all levels and heights, etc., complete.	SQM	25			
2.4	<b>CEMENT CONCRETE SCREEDING</b> :- Providing and laying 40mm thick average IPS (Indian Patent Stone) for flooring to a maximum 75mm to 85mm thick using cement concrete 1:2:4 (1cement : 2 Coarse sand : 4 graded stone aggregate 20mm and down gauge) for flooring bands and other similar locations, tamped, spaded, trowelled and top finished neat, smooth with floating coat of cement as directed laid in alternate panels of area not more than 2 sqm and laid to water levels or proper slopes as directed with necessary shuttering, hacking the existing surface, curing etc, complete at all heights and levels as per site condition.	SQM	35			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
2.5	<b>CEMENT CONCRETE</b> :- Providing and laying cement concrete 1:2:4 (1cement : 2 Coarse sand : 4 graded stone aggregate 20mm and down gauge) for flooring subbase and other similar locations and laid to water levels or proper slopes as directed with necessary shuttering, hacking the existing surface, curing etc, complete at all heights and levels as per site condition.	CUM	30			
2.6	<b>FOAM CONCRETE FILLING UNDER TOILETS AND PANTRY:-</b> Filling and compacting Foam Concrete for raising level of toilets and pantry and finishing in a coat of lean concrete screeding with waterproofing compound complete in all respects to take Tile Flooring as per flooring specifications.	CUM	3			
2.7	<b>REINFORCED CEMENT CONCRETE</b> :- Reinforced cement concrete work with M-20 grade reinforced cement concrete in columns, lintels, beams counter, shelves including the cost of centring and shuttering finishing and reinforcement at all height & levels. Include cost of steel & shuttering.	CUM	1			
2.8	<b>CLOSING OF CUT OUTS</b> :- Closing of cut out (OF MAXIMUM 300MM X 300MM) in cement concrete and fixing of PVC sleeves as directed.	EACH	10			
	<b>TOTAL OF SUPERSTRUCTURE</b>					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
III	<b>PAVING AND WET WORKS</b>					
	Note					
	The sample of tiles/ slabs to be submitted to the Architect/ Engineer for approval.					
	For floor tiles, all edges to be sorted for straight edges before laying. The tile will be laid after approval from the Architect/ Engineer at site.					
	The rate to include all mirror machine polishing for Marble and wax mirror polishing or Titanium polishing for Kota stone. The final decision will be as per Architects instructions.					
	The cost of tile/ stone mentioned below is the maximum cost. In no circumstances it should exceed the one mentioned in the respective items and is inclusive of all material cost, transportation, Octroi if applicable, loading-unloading and all taxes, statutory as applicable.					
	All bull nosing, polishing etc for sills, frames and staircase treads should be factory finished and brought to site.					
	The joints for all flooring to run in a straight line and should not exceed 1.5mm for stones and 1mm for tiles and should be filled with grouts to the full depth.					
	The rate for all the flooring items (whether specifically mentioned or not) to include.					
	(a) All materials, labour, surface preparation, working at all levels, tools and plants, machine polishing for stones like Marble, Kota.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	(b) Providing and laying polythene and layer of 12 mm thick Plaster Of Paris in two layers on existing flooring surface (For the projection of floor surface during other activities). Rate should be including cost of removing this protective layer, (after the work is completed) carrying all debris out of site and dumping it to municipal authorised dumping ground, cleaning the entire covered flooring area.					
	(c) Grouting the joints as mentioned in the individual items.					
	(d) Soaking the tiles in water for at least two hours before laying.					
	(e) Curing					
	(f) Cleaning the surface.					
	(g) Cleaning and disposing off the debris at a location as desired by the Architect at site.					
	(h) In case adhesives are used for flooring, the rate to be inclusive of extra cement bedding required to match the existing levels. In case, adhesives are used for cladding on walls, the rate to include backing coat plaster in cement mortar 1:3, to bring the wall in proper plumb, line and level.					
	(i) Any additional mortar or concrete required to bring the surface to the required level and gradient before laying the base mortar at no extra cost.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
3.1	<b>GRANITE FLOORING</b> :- Providing and 18 mm thick mirror polished , machine cut granite stone for Staircase , door thresholds, counter top or similar locatons of approved shade ,Colour and Pattern as per detailed drawings on up to 25mm thick bed of cement mortar 1:3, ( 1 Cement: 3Coarse Sand ) with joints treated with matching pigment , epoxy touch ups including rubbing, polishing where required ,curing etc The nosing of tread shall be finished using flat Edge/Eased edge nosing . Complete in all respect at all floors as per directions <b>Suggested Granite: Cat eye or equivalent priced granite as approved )</b>	SQM	2			
<b>TOTAL OF PAVING AND WET WORKS</b>						
<b>IV</b>	<b>SANITARY FIXTURES AND FITTINGS</b>					
4.1	Providing and fixing white vitreous china wall hung type water closet (European type) with Quiet- close seat and cover, C.P. brass hinges and rubber buffers , CI/MS chair, complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required.					
	W.C. pan with ISI marked white solid plastic seat and lid.( Make Hindware Wall Hung WC Product Code – CRYSTAL-20047 or approved equivalent.	Each	2			
4.2	Providing and fixing slim concealed flushing cistern with floor mounting frame ref. Jaquar code no. CIB-WHT-2400FS or approved equivalent including providing and fixing flushing plate ref. Jaquar code JCP-CHR-2415 or approved equivalent with all fittings and fixtures complete to connect to W.C.	Each	2			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
4.3	Providing and fixing under counter wash basin ref. Hindware Code. No.CNS-WHT-705 or approved equivalent with 32mm C.P. brass waste & union of standard pattern, including painting of fittings, cutting and making good the walls wherever required.	Each	2			
4.4	Supplying and fixing urinal fixing to wall with required materials like teak wood/pvc plugs, packing pieces, screw nails, testing etc complete. (Make HINDWARE. Flat Back Euraeka or approved equivalent.)	Each	1			
4.5	Providing and fixing C.P. brass single lever pillar cock ref. Jaquar cat. No. ARI 39011 or approved equivalent.	Each	2			
4.6	Providing and fixing C.P.Urinal Valve Auto closing System with built in control and wall flange,copper connection pipes ref. Jaquar cat. No. PRS- 077 or approved equivalent.	Each	2			
4.7	Providing and fixing C.P. brass toilet paper holder ref. Jaquar cat. No. ACN 1153N or approved equivalent.	Each	2			
4.8	Providing and fixing towel holder ref. Jaquar cat. No. ACN 1121N or approved equivalent.	Each	2			
4.9	Providing and fixing angular stop cock with wall flange ref. Jaquar cat. No. ARI 39053 or approved equivalent.	Each	8			
4.10	Providing & fixing Bottle trap to wash basins with CP necessary fittings ref. Jaquar cat. No. ALD 769L or approved equivalent.	Each	3			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
4.11	Providing and fixing Health faucet with metal hose and holder in chrome polished (C.P.) ref. Jaquar cat. No. ALD CHR 573 or approved equivalent.	Each	2			
4.12	Providing and fixing kitchen sink spout ref. Jaquar cat. No. ARI 39347 or approved equivalent.	Each	1			
4.13	Providing and fixing 6mm thick looking mirror of size 600mm x 900mm and with built in light over 18 mm th. marine ply with 3M double sided tape as per manufacturer's specifications. Sealing the edges with transparent silicon sealant bead. Mirror with edges machine transparent ground and 6mm bevelled. Item includes making provision for for 2nos. light fixtures. All complete as per design intent as follows, approval and instructions of the Architect.	Each	2			
4.14	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 dia stainless steel waste and plug 40 mm including painting of fitting and brackets, cutting and making good the walls wherever required. Kitchen sink with drain board size 510x1145 mm bowl depth 200mm.	Each	1			
	<b>TOTAL OF SANITARY FITTINGS AND FIXTURE</b>					
<b>V</b>	<b>PLUMBING WORKS</b>					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
5.1	Providing & fixing of uPVC SWR pipes 4 Kg/cm <sup>2</sup> (IS 13592-1992-Type B) including injection moulded fittings wherever required e.g., tees, bends of any degree, clamps, couplings, adapters, plugs, unions etc.and jointing with solvent cement including cutting and making good the floors and walls where required complete as per site.					
	75 mm O.D	Metre	25			
	110 mm O.D	Metre	25			
5.2	Providing and fixing of uPVC agricultural pipes conforming to IS:4985 Class III (6 kg/sqcm) including all fittings, e.g. couplings, tees, bends, reducers and screwed adoptors, plugs, unoins etc. and jointing with solvent cement joint including cutting and making good the floors and walls where required complete as per site.[for Waste Connections ]					
i)	50 mm O.D	Metre	10			
5.3	Providing and fixing of uPVC P-Trap with extension piece including setting with cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 stone aggregate 20 MM nominal size) the inlet from floor level to trap rim to be grouted and cemented neat manner including cutting and making good the floor & wall wherever required complete in all respects.					
	110 mm OD inlet & 110 mm OD outlet.	Each	3			



S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
5.4	Providing and fixing of uPVC Multi Trap jointing with solvent including setting with cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 stone aggregate 20 MM nominal size) the inlet from floor level to trap rim to be grouted and cemented neat manner including cutting and making good the floor & wall wherever required complete in all respects.					
	110 mm O.D inlet & 75 mm O.D outlet.	Each	3			
5.5	Providing and fixing stainless steel grating 1 mm thick with frame (with or with out hole) including fixing to the floor with cement mortar.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	125 mm X 125mm	Each	5			
<b>5.6</b>	Providing and fixing chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamps at 1.00 M. spacing, This include jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete including cutting chases and making good the walls etc..					
<b>a)</b>	15 mm nominal outer dia pipes	Metre	15			
<b>b)</b>	20 mm nominal outer dia pipes	Metre	15			
<b>c)</b>	25 mm nominal outer dia pipes	Metre	20			
<b>5.7</b>	Providing and fixing Ball valve with hard chrome plated ball inside PTFE (Teflon) seat & ring with chrome plated centre handle with female BSP threads complete in all respects.					
<b>a)</b>	25 mm dia	Each	2			
	<b>TOTAL OF PLUMBING WORKS</b>					
<b>VI</b>	<b>PAINTING POLISHING AND POP WORKS</b>					
<b>6.1</b>	POP PUNNING ( 12-15 MM ); Providing and fixing average 12 mm - 15mm thick POP Punning over cement plaster in line and plumb finished smooth to receive paint	SQM	500			
<b>6.2</b>	Painting with silicon & acrylic emulsion based water thinnable sealer of approved brand and manufacture on wet or patchy portion of plastered surfaces					
	One coat	SQM	250			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
6.3	Wall painting with premium plastic emulsion paint ( roller finish ) of approved brand and manufacture to give an even shade (Asian )					
	One or more coats on new work	SQM	850			
6.5	French spirit polishing :					
a	One or more coats on old work sqm	SQM	45			
6.6	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:					
a	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacturer	SQM	250			
	<b>TOTAL OF POLISH &amp; POP WORKS</b>					

**SUMMARY of CIVIL WORK**

<b>S.NO.</b>	<b>DESCRIPTION</b>	<b>AMOUNT (Rs)</b>
I	DISMANTLING	
II	SUPER STRUCTURE	
III	PAVING AND WET WORKS	
IV	SANITARY FITTINGS AND FIXTURES	
V	PLUMBING WORKS	
VI	PAINTING POLISHING AND POP WORKS	
<hr/> <b>TOTAL OF CIVIL WORKS CARRIED TO GRAND SUMMARY</b> <hr/>		

<b>B FURNISHING WORK:</b>						
<b>S.No.</b>	<b>Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Rate (Rs)</b>	<b>Rate (in words)</b>	<b>Amount (Rs)</b>
<b>SUB HEAD - I</b>						
<b>I</b>	<b>FALSE CEILING</b>					
<b>Notes:</b>						
<b>a</b>	No extra payment shall be made for the false ceiling surfaces (other than straight) which can be in the form of curves, edging or recesses etc. as may be specified or directed.					
<b>b</b>	No extra payment shall be made for providing framework diagonally.					
<b>c</b>	Rates shall be inclusive of providing additional framework for fitting light fixtures, AC supply /return air grilles / diffusers , Smoke detectors, Speakers, trap door cut outs etc.					
<b>d</b>	All defects / cracks formed during the construction period shall be rectified before handing over of the complete work.					
<b>e</b>	The rates shall be inclusive of necessary supports, scaffolding, labour etc.					
<b>f</b>	For the purpose of payment actual (net) surface area of the board (excluding wastages) applied shall be measured.					
<b>g</b>	For the purpose of payment complete exposed / accessible visible area of the board / ply / laminate including drops, slant/slopes etc. to be measured unless specified in another manner.					
<b>h</b>	All rates to include lead & lifting charges.					
<b>1.1a</b>	<b>GYPBOARD CEILING</b> :- Providing and fixing suspended false ceiling, which includes providing and fixing GI perimeter channels of size 0.55mm thick having one flange of 20mm and another flange of 30mm and a web of 27mm along with perimeter of ceiling, screw fixed to brick wall/ partition with the help of nylon sleeves and screws at 610mm centers. The suspending GI intermediate channel of size 45mm, 0.9mm thick with two flanges of 15mm each from the soffit at 1220mm centers with ceiling angle of width 25mmx 10mmx 0.55mm thick fixed to soffit with GI cleat and steel expansion fastene. Ceiling section of 0.55mm thickness having knurled web of 51.5mm and two flanges of 26mm each with lips of 10.5mm are then fixed to the intermediate channel with the help of connecting clips and in direction perpendicular to the intermediate channel at 457mm centers. 12.5mm tapered edge Gypboard (Conforming to IS- 2095-1982) is then					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	Finally the boards are to be jointed and finished so as to have a flush look which includes filling as finishing the tapered and square edge of the boards with joining compound, paper tape and two coats of primer suitable for Gypboard (as equivalent) extra frame work for electrical fittings, A/C diffusers, and/or any other cut-out, trap doors, wooden shadow battens (hollock wood black enamel painted-25x40mm) at wall peripheries and ends, 12mm thick MDF board for pelmet etc. complete including opening to be made for AC grills, light fittings, trap doors etc. (The quoted rate shall be inclusive of suspenders at all heights).	SQM	350			
<b>b</b>	Providing and fixing 75 high Gypsum board on GI frame as above specifications as vertical band on the edges of False Ceiling	RM	75			
<b>1.2</b>	<b>Modular False ceiling</b>					
<b>a</b>	Providing and fixing Armstrong (Fine Fissured Micro Look with Tagular Edge using 24" X 24" tile laid on Armstrong Silhouette profile grid system .Silhouette, Main Runners & Cross Tees to have mitered ends & "birds mouth" notches to provide mitered cruciform junctions. T Suspension system for Armstrong grid to be of Armstrong make.	SQM	275			
	<b>TOTAL FALSE CEILING CARRIED TO SUMMARY OF FURNISHING WORK</b>					
<b>II</b>	<b>PARTITIONS AND WALL PANELLING</b>					
<b>2.1</b>	Fixed in Situ Partition / Panelling Frame Work:					
	Providing and fixing in position mirandi wood framework to fit site for partitions and panelling as follows :					
<b>a)</b>	50mm x 50mm @ 400 mm centre to centre both ways for straight partitions (for full height and low height partitions).	SQM	55			
<b>b)</b>	50mm x 25mm @ 400 mm centre in to centre or as required as per design intent (for wall panelling).	SQM	75			
<b>c)</b>	75mm x 25mm @ 400 mm vertical spacing to match the mullions & horizontally 50mm x 25mm @ 400mm centre to centre for wall panelling.	SQM	25			
	Item include cost towards providing & applying fire retardant anti bacterial paint. All complete as per specifications, drawings, design intent and instructions of the Architect.					
	Notes: For Item No. 2.1					
<b>1</b>	For full height partitions framework shall be provided till the bottom of roof slab and only the visible area shall be measured for payment.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
2	Center to center spacing may vary to make provision for fixing dado rail / to adjust the level of glass or for fixing counter / storage units or otherwise as per site requirement.					
3	No extra payment shall be made for reduction in framework opening as indicated in the drawing or as instructed by the Architect. Framework shall be rigidly secured to floor and ceiling by dash fasteners etc. at maximum 600mm c/c.					
4	For framework of partition / panelling wherever change of material or joint in the skin material occurs, an additional member must be provided for proper strength & shall be of the same section & size as the other frames without any additional payment.					
5	Cost towards skinning and finishing shall be paid for in the relevant item.					
2.2	Providing and fixing to straight partition, panelling framework, First Skin as per following specifications: 12 mm thick BWR Ply. 400mm c/c both ways on the framework. Joints staggered on either sides of the partitions to avoid through joints.					
	All complete as per specifications, drawings, design intent and instructions of the Architect.	SQM	210			
	Note for Item 2.2: 1. Net area of BWR ply applied shall be measured for the purpose of payment.					
2.3	Providing and fixing Second Skin on existing straight / curved partition/panelling as per following specifications: 6mm thick Exterior Grade MDF board fixed with suitable adhesive & fully threaded parallel shank screws at max. 400mm c/c both ways. Joints staggered on either sides of the partitions to avoid through joints. Providing grooves of size 6mm x 6mm or as per design intent as specified below or as instructed.					
	All complete as per specifications, drawings, design intent and instructions of the Architect.	SQM	100			
	Notes for Item 2.3: 1. Wherever ply / board is applied in more than one layer the joints in each layer shall be staggered. First layer (skin) will be screw fixed and subsequent layers shall be screwed as well as glued with suitable adhesive.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
2	Net area of ply / board applied shall be measured. For the purpose of payment net rectilinear area shall be measured. Where Ply is applied in more than one layer each layer shall be measured and paid for separately.					
2.4	Providing and fixing 12mm thick MR Ultra Gypsum board to partition / panelling framework. The edges to be neatly finished with veneer plaster. All complete as per specifications, drawings and instructions of the Architect.	SQM	30			
2.5	Providing , fixing and finishing in 1.0mm thick laminate over full height /free standing partition / wall paneling / doors / elsewhere as instructed. Laminate shade, pattern & surface finish shall be as follows. The direction of Grain of print / texture and grooves shall be as per design intent. The laminates shall be fixed with adhesive of approved quality. (Basic Price of Laminate Rs.500/- Sqm) All complete as per Manufacturer's specifications, approval and instructions of the Architect. Mode of Measurement: Net area applied shall be measured for payment.	SQM	50			
2.6	Providing & fixing Teak wood moulding of approx. finished size 19mm x 12mm Mode of Measurement: Net running length shall be measured for payment.	R.mtr.	120			
2.7	Providing & fixing to curved / straight partition / paneling / doors or elsewhere as instructed melamine pressed 3.5 - 4.0 mm thick Decorative veneer ply of group match and of following origin, making grooves, including protecting with two coats of sealer and two coats of melamine polish. Century : White Oak	SQM	50			
2.8	Providing , fixing and finishing in 6mm thick exterior grade MDF board over full height /free standing partition / wall paneling / doors / elsewhere as instructed. Laminate shade, pattern & surface finish shall be as follows. The direction of Grain of print / texture and grooves shall be as per design intent. The laminates shall be fixed with adhesive of approved quality. Item also includes providing & fixing White oak wood moulding of approx. finished size 19mm x 12mm. All complete as per Manufacturer's specifications, approval and instructions of the Architect. Mode of Measurement: Net area applied shall be measured for payment.	SQM	40			
2.9	Providing and fixing in position customised Clear Float Glass in partition or elsewhere of following thickness and specifications. Exposed edges of glass to be machine transparent ground.					
i)	10mm thick clear float toughened glass	SQM	30			



S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	Item includes providing holes / cutouts for patch fittings. Provision for one fitting shall be counted as one unit.					
	All complete as per specifications, drawings, design intent and instructions of the Architect.					
	Mode of Measurement: For the purpose of payment net rectilinear area of glass used shall be measured.					
2.10	Providing and fixing on glass panes, self adhesive crystal films as per following specifications Ref. 3M Scotchcal Commercial Graphics Cat. Electrocut Crystal films or of approved equivalent make.	SQM	25			
	All complete as per Manufacturer's specifications, approval and instructions of the Architect.					
	Mode of Measurement: For the purpose of payment net area applied shall be measured excluding the wastage.					
2.11	<b>TOUGHENED GLASS PROFILES :-</b> Providing and fixing PR-22 aluminium profile for glass fixing from Ozone. All profiles in 3m length. The glass to be fixed in the profile on floor ceiling levels and side wall. Complete with closing of all joints and complete in all respect as per direction of Engineer-In-Charge. <b>Note: Only installed lengths to be measured.</b>	RMT	25			
8.2	Providing and fixing pinup boards. It consist ½" soft boards of good density to be mounted over ½" ply. The soft board will be covered with a plain fabric (approx Rs.250 /Rmts.) from front and edges. Suitable moulding (as directed by architect) will be fixed on all four sides and will be finished in polish.	Sqm	8			
	<b>TOTAL PARTITIONS AND WALL PANELLING CARRIED TO SUMMARY OF FURNISHING WORK</b>					
<b>III</b>	<b>DOORS / WINDOWS</b>					
3.1	Providing and fixing moulded Teak Wood frames of doors, and other frames of sizes 125 x 65mm as per design. All complete as per specifications, drawings, design intent and instructions of the Architect. Wood to be melamine polished maple wood or deco painted as per specification and Architects approval.	R.mtr.	75			
3.2	Providing and fixing Teak Wood architrave to chowkhat and wall / partition of finished size 25mm x 19mm, moulded to shape. All complete as per specifications, drawings, desian intent and instructions of the Architect. Mode of Measurement: For the purpose of payment the architrave shall be measured along the center line in one go.	R.mtr.	15			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
3.3	Providing and fixing in position flush door shutter as per following specifications :					
	40mm thick non decorative, factory made flush doors as per technical specifications.					
	Item includes all edges of shutter to be sealed with 6 mm thick Teak wood /Wenge wood edging slip on all sides. Wood protected with two coats sealer and two coats of melamine (matte) polish. All complete as per specifications, design intent and instructions of the Architect.. Shutter Size upto 1M X 2.4 M Each shutter to be provided with 75mm long butt hinges S.S. brush finish (3 nos. per shutter),All complete as per specifications, design intent and instructions of the Architect.	Each	8			
	Notes for item 3.3:					
1.	Cost of either side of finishing to be measured in the relevant item.					
2.	Mode of Measurent					
	Front area from one side to be measured for the purpose of payment.					
3.4	Providing and fixing Flush door ( for Pantry etc.) with peep window and sizes as per drawing and following specifications:					
	40mm thick non decorative, factory made flush doors as per technical specifications.					
	Glass					
	10mm thick Clear float toughened glass of size 300 x 550mm fixed with ivory coast edging					
	Finish					
	Both faces of door finished in 1.0mm thick Laminate using water resistant adhesive Araldite.					
	All wooden edging finished in 2 or more coats of duco paint.	Nos	1			
3.5	<b>SINGLE LEAF GLAZED DOOR-</b> Providing & fixing single leaf glazed door of size approximately, 1000mm x 2400mm fabricated with 12mm thk toughened glass all sides edge polished to be fixed on patch fittings of <b>Dorma or equivalent</b> make. Cost of the door to be inclusive of pre-approved H-Type 600mm long handles and floor lock ( <b>dorma or equivalent</b> ) to be fitted horizontally/ vertically as per instructions & patch fitting(s) lock(s),floor spring(s), etc., all complete and including making necessary holes in the glass for Access control locks, complete with all respect with all hardware & Architect instructions. Entrance door.	EACH	9			
3.6	Supplying and Fixing Hardware as per following specifications with necessary screws, etc. complete. All complete as per specifications, drawings, design intent and instructions of the Architect.					
a)	Door closer HS refer Hafele Cat.no. 931.84.419	Each	6			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
b)	Door stoppers ref. hafele cat. 937.53.130	Each	6			
c)	Door handle with Lever, mortice and cylinder Ref.Hafele Cat. 903.99.057 CAPO matt finish handles with Mortise lock, double cylinder (Keys bothside)	Each	6			
d)	Door handle with Lever, mortice and cylinder for toilets Ref. Hafele Cat. Art. No. 903.99.057 CAPO matt finish handles with lever handle, thumb turn cylinder having kev outside & thumb turn inside.	Each	2			
e)	Stainless steel swing hinge double action 152mm ref. Hefele cat. 927.93.103	Each	3			
<b>TOTAL OF DOORS / WINDOWS</b>						
<b>IV</b>	<b>WINDOW DRAPERY</b>					
<b>4.1</b>	Providing and fixing Roller Blinds of approved brand in the windows with manual operation as follows :					
a)	Ref. Mac. Cat. London mist LM 724 or of approved equivalent.	SQM	70			
	All complete as per specification, drawing, design intent and approved and instruction of the Architect.					
	Note :- Front rectilinear area shall be measured for the purpose of payment.					
<b>TOTAL OF WINDOW DRAPERY CARRIED TO SUMMARY OF FURNISHING WORK</b>						
<b>V</b>	<b>STORAGES</b>					
<b>5.1</b>	<b>Descriptions</b>					
	<b>PANTRY STORAGE (BELOW/ABOVE COUNTER)</b>					
	Dimensions					
	600MM deep and length as per site.					
	Framework					
	19mm x 32mm (finished size) hard wood frame work.					
	Shutters					
	19mm thick post-formed laminated board. Post-forming on two longer sides and PVC edge banding on balance sides. Front side laminated in approved colour and counter side in white colour.					
	Shelving / Vertical Partition					
	19mm thick post-formed laminated board. PVC edge banding on all sides. Front side laminated in approved colour and counter side in white colour.The vertical Partitions shall be provided at upto 750 centre to centre spacing on there shall be oner shelf between the part.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	Top					
	Counter top finished in black galaxy granite					
	Handles & Accessories					
	75mm long auto-closing stainless steel hinges ref. Hettich cat. Ecomat-0 Crank ( 3nos. per shutter). Cut out in the shutter to act as pull handle neatly finished in wood.	RM	5			
5.2	P/F over counter storage unit upto 300mm depth and 700mm high made out of 19 mm BWR ply for verticals, top, bottom, and intermediate vertical partitions @600 c/c or part thereof and backing of 6 mm th. BWR ply. The inside ,top & exposed sides of storage to be finished with 1mm thick laminate and complete in all respects as per design. The width of each module shall be upto 750 & there shall be 1 to 2 shelves per module.	SQM	6			
5.2	<b>FULL HEIGHT STORAGE-CB1 (Drg no. D-02)</b>					
	<b>Carcasse:</b>					
	25mm thick pre laminated board (both sides laminated). All visible sides laminated in 1 mm th. laminate Sunmica Wood Series; Code No. WP 133; Rusted Urban Teak . / approved equivalent and inside side in 0.8mm th.white colour laminate . Edge profile matching to the printed laminate.The width of each storage module shall be upto 1000mm and the depth of storage shall be upto 450mm					
	<b>Shelving:</b>					
	19 mm thick pre laminated board (both sides laminated). Both side laminated in approved in 0.8 white colour. All shelves resting on S.S studs. The spacing of shelves shall be 450 mm. Edge profile matching to the printed laminate.					
	<b>Back:</b>					
	19mm thick pre laminated board (both sides laminated).One sides laminated in 0.8 mm th. white colour laminate.					
	<b>Shutter:</b>					
	19mm thick pre laminated board (both sides laminated) with postformed edges. Front side 1mm th. laminate Ref. Rusted Urban Teak Sunmica Cat. Wood Series; Code No. WP 133; ./ approved equivalent and counter side in white colour. All vertical edges shall be postformed as per approved profile.All other edges shall be provided with matching PVC edge banding . Grooves in shutter shall be provided and grain direction shall be as per design intent.					
	<b>Handles &amp; Accessories:</b>					
	Shutters having 331 mm long Aluminium handles( one per shutter) ref. Hettich cat.9071082. Four no.s Auto closing Hinges per shutter with Dampner ref. Hettich cat. no.73913+72983+60581.Shelves rest on S.S. Studs.					
	3 nos. tower bolts for every pair of shutters, Locks for storage shutters with a set of keys Ref. hettich cat.no. 72251+72253+9078951+9078620.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	All complete as per drawing, approval and instructions of the Engineer- in- charge.	SQM	10			
	<b>5.3 OVERHEAD STORAGE CB2 (Drg. No. D-03)</b>					
	<b>Carcasse:</b>					
	Includes back ,base and two sides.25mm thick pre laminated board (both sides laminated).Doubled edges by adding 18 mm exterior grade MDF Board to the 25mm thick pre laminated board back. All edges & visible sides of carcasse laminated in approved colour Ref. Rusted Urban Teak Sunmica Cat. Wood Series; Code No. WP 133 / approved equivalent and counter side in white colour laminate. The width of each storage module shall be upto 1000mm and the depth of storage shall be upto 450mm					
	<b>Shelving:</b>					
	19 mm thick pre laminated board (both sides laminated). One side laminate Ref. Rusted Urban Teak Sunmica Cat. Wood Series; Code No. WP 133.; / approved equivalent and counter side in white colour laminate. All shelves resting on S.S studs. Edge profile matching					
	<b>Top skirting:</b>					
	Doubled edges by adding 18 mm exterior grade MDF Board to the 25mm thick pre laminated board back.Wrapped in 0.8mm thk. Laminate,on two sides.					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	Shutter: 19mm thick pre laminated board (both sides laminated) with postformed edges. Front side laminate Ref. Rusted Urban Teak Sunmica Cat. Wood Series; Code No. WP 133.; /approved equivalent .Counter side in white colour .8 mm th laminate. All vertical edges shall be postformed as per approved profile.All other edges shall be provided with matching PVC edge banding . Grooves in shutter shall be provided and grain direction shall be as per design intent.					
	Handles & Accessories: Shutters having 331 mm long Aluminium handles( one per shutter) ref. Hettich cat.9071082. Four no.s Auto closing Hinges per shutter with Dampner ref. Hettich cat. no.73913+72983+60581.Shelves rest on S.S. Studs.					
	1 nos. tower bolts for every pair of shutters, Multipurpose Locks for storage shutters with a set of keys Ref. hettich cat.no. N6100.					
	All complete as per drawing, approval and instructions of the Engineer- in- charge.	SQM	5			
	<b>TOTAL OF STORAGES CARRIED TO SUMMARY OF FURNISHING WORK</b>					
	<b>6 MODULAR PARTITIONS /WORKSTATIONS / TABLES</b>					
	Note :- All the items under this sub-head are to be of Modular design, factory built and as per approved vendor list.					
	<b>6.1 MODULAR PARTITION (Drg no. D-1a)</b>					
	Design, fabrication, supply and installation of following factory made modular furniture for open office workstation system					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
6.01	<p>Cubical self support flush Panel/ Sliding Type tile based 2 Module partition panels 45-53 mm thick forming part of the open office workstation modular furniture system, for a total height of average 1220 mm ( recommended module of 650mm + 450mm + 100 mm ± 20 mm ) consisting of concealed raceways of 100 mm width at bottom level and 100 mm width at the intermediate level, as per requirement including necessary frames, top caps, adjustable bolts, raceways cover plates etc. complete. The frames and partitions to have provisions and flexibility to form 2-way, 3- way or 4-way configurations by means of connection posts. . The partition inner frame is 1.2-1.5 mm thickness Aluminium Frame .Horizontal and vertical trims shall be 1.2 -1.5 mm average thick aluminium powder coated with 40-50 micron PolyPropelene Co- Polymer coating.The aluminium trims shall be elegantly fixed with hidden connectors on the partition.The frame shall be fitted with 8-9 mm thick prelaminated particle board tiles of approved shade. surface finishes shall be FABRIC, LAMINATE &amp; MARKER GLASS.Double sided 4-5 mm thick toughned glass tiles can be fitted to any module frame &amp; are completely interchangeable with regular tiles at any time and shall be fitted with frosted vinyl backing 3M or equivalent as approved . .The levelling bolt M8 or equivalent approved adjustment shall be used for adjusting the unevenness of floor. The bottom skirting is 95-110 mm high made of aluminium plates/CRCA steel as per IS:513 powder coated with Epoxy -Polyster fininsh (between 40-50 microns) finish. Partition shall have provision for pin-up board with fabric /white marker/laminated board of approved shade The complete partition work shall be carried out as per following type and pattern . The product should be from BIFMA and certified company</p>					

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
6.01(a1)	Partitions with panels finished on both sides with <b>lamine finish up to work surface level and rest above with 4-5 mm thick double skin approved make Marker glass panels up to 1220 mm height</b> with raceways at the bottom and at work surface level frosted venyl backing 3M or equivalent as approved ( <b>Panel width 750-800 mm</b> ),as per drawing no. <b>D-06</b>	SQM	6			
6.01(a2)	Partitions with panels finished on both sides with <b>lamine finish up to work surface level and rest above with 4-5 mm thick double skin approved make Marker glass panels up to 1220 mm height</b> with raceways at the bottom and at work surface level ( <b>Panel width upto 600-650 mm</b> ),as approved drawing no. <b>D-04</b>	SQM	10			
6.01 (b1)	Partitions with panels finished on both sides with <b>lamine finish up to work surface level and rest above with both-side fabric covered over soft board up to 1220 mm height</b> with raceways at the bottom and at work surface level. ( <b>Panel width 800- 900 mm</b> ),as approved drawing no. <b>D-06</b>	SQM	6			
6.01 (b2)	Partitions with panels finished on both sides with <b>lamine finish up to work surface level and rest above with both-side fabric covered over soft board up to 1220 mm height</b> with raceways at the bottom and at work surface level. ( <b>Panel width 600-650mm</b> ) as approved drawing no. <b>D-04</b>	SQM	10			
6.01 (b4)	Partitions with panels finished on both sides with <b>lamine finish up to work surface level and rest above with both-side fabric covered over soft board up to 1220 mm height</b> with raceways at the bottom and at work surface level. ( <b>Panel width 1000-1100mm</b> )	SQM	6			
6.01 (c1)	Partitions with panels finished on both sides with <b>lamine finish up to work surface level and rest above with 4-5 mm thick double skin approved make transparent toughened glass panels without frosted venyl backing up to 1220 mm height</b> with raceways at the bottom and at work surface level ( <b>Panel width 600mm-750 mm</b> ),as approved drawing no. <b>D-04</b>	SQM	10			
<b>6.2 MODULAR TABLE TOP/WORK SURFACE</b>						



S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
6.02	Providing & fixing 25 mm thick exterior grade board post formed laminated workstation table top with post formed half round front edging and balancing lamination at bottom surface as per the following sizes with necessary brackets, fixing arrangements etc. Gable ends made of 25 mm thick exterior grade board post formed pre-laminated particle board etc. with necessary CRCA Steel grade D steel as per IS:513 powder coated brackets etc. Gable ends shall be made of 25 mm thick interior grade Board postformed laminates . Non working /back edges to of both ends of Gable and work top to have straight edges machine pressed with 2mm thick PVC tape lipping glued with hot melt EVA glue					
6.02 (a)	Work surface of shape linear type (1200 mm X600 mm ) provided with 65-70 mm DIA circular cutout and covered with ABS covers as approved <b>drawing no D-04</b>	Each	61			
6.02 (b)	Work surface of shape L type (1500 mm X750 mm +900mm x525 MM ) provided with 65-70 mm DIA circular cutout and covered with ABS covers as approved <b>drawing no. D-06</b>	Each	8			
<b>6.3 PEDESTAL/ MOBILE DRAWER UNIT:</b>						
6.03 (a)	Fabricating supplying and placing Mobile pedestal drawer units of approximate size 500 mm deep 450 mm wide and 635-680 mm high consisting of four no drawer units . The unit shall be fabricated out of 18mm thick pre laminated particle board interior grade in approved make and shade having four no drawers of equal size .All working or non working edges shall be provided with machine pressed 2mm thick PVC edging using special hot melt EVA glue at hot temperature.The drawers shall be made out of 12mm prelaminated board and the back of unit to be made up of 8mm thick prelaminated board. Each Drawer shall run on metallic roller channels and shall have SS Handles in D shape as per approval .Each drawer shall have proper locking arrangement with with triplicate keys and smooth sliding arrangements.	Each	8			

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
6.03 (bi)	Fabricating supplying and placing in position Fixed pedestal drawer units of approximate size 500 mm deep 450 mm wide and 635-680 mm high consisting of two drawer units of upto 125mm height each and 1 no filing drawer at bottom. The unit shall be fabricated out of 18mm thick pre laminated particle board interior grade in approved make and shade having four no drawers of equal size .All working or non working edges shall be provided with machine pressed 2mm thick PVC edging using special hot melt EVA glue at hot temperature. The drawers shall be made out of 12mm prelaminated board and the back of unit to be made up of 8mm thick prelaminated board. Each equal sized drawers shall run on metallic roller channels and shall have SS Handles in D shape as per approval . The units shall have proper central locking arrangement with single key hole with triplicate keys and smooth sliding arrangements.	Each	61			
6.03 (bi)	Same as above but with 4 lockable drawers and without castors.	Each	1			
<b>6.4 STORAGE UNIT</b>						
6.0a	<b>Back Storage Unit-</b> Providing & Fixing Back Storage Unit with top made of 25mm thick prelaminated particle board having decorative laminate on top and balancing laminate on unexposed face, and understructure made of 18mm prelaminated particle board having sliding shutters running on sliding channels. All exposed edges are sealed with 2mm thick PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed with hot melt glue on special machines.One shelf shall be provided per unitThe unit is provided with proper locking arrangement shall have SS Handles in D shape as per approval . All channels out of metal. PVC Channels will not be accepted. The typical module of storage shall be LX H X D ( 900x 680 x 450 )	SQM	10			
<b>6.5 COMPUTER KEY BOARD:</b>						
	Fabricating, supplying and fixing in position sliding computer key board tray of 500 X 250 X 75 (depth) mm made out of CRCA steel as per IS:5131 20 gauge power coated section, with sliding channel and other fixtures and fittings etc, with integral space to accommodate mouse etc, complete.	Each	69			
<b>6.6 NON MODULAR TABLES</b>						

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
	Providing following tables out 3/4" commercial board of approved make. and 1.5mm thick laminate top of approved shade and make. Sides out of 3/4" commercial board and bck out of 1/4" commercial ply. All visible front and side to have 1.0 mm laminate of approved shade, and with 4" high mettalic laminate , as per sample. Inside surfaces to have white laminate 0.8 mm thick. Commercial board to have hot pressed PVC edging. All hardware of approved make. Ready made metal keyboard drawer of approved make. Three drawer of different sizes with " metabox " sides, of approved make. Three drawers to have single locking mechanism. Handles out of SS, of approved make, as per approved sample. Including providing and fixing cable managers.Complete as per drawing and directions.					
6.06a	<b>Officer table</b> (1800 mm X750 mm + 900mm x 450 MM ) ( Drg No 02)	Nos.	1			
606a1	<b>Officer table</b> (1600 mm X750 mm + 900mm x 450 MM ) ( Drg No 02)	Nos.	2			
6.06b	<b>Table</b> (1350 mm X600 mm Drg No 05)	Nos.	2			
<b>6.7</b>	<b>Reception desk</b>					
	<b>Dimension- 1200 Lengthx750 Widthx 750 Height</b>					
	As per Drawing no. D-03					
	Framework For Base					
	19mm thick P.F. board top with 19mm P.F. board framework.Wooden packing at edges as per design intent (wherever reqd.)					
	Base finish					
	3.5mm decorative melamine pressed Sucupira veneer ply alround. All corners and edges would be mitered . Bottom and inside of table base shall be finished in laminate.					
	Visitor Panel Finish:					
	As per Drawing no. D-03					
	Key board tray					
	Prefab metallic key board tray					
	Mobile Unit					
	Fixed drawer fronts made out of 19mm thick BWR board. Drawer body made out of 12mm thick BWR plywood. All edges of carcasse,external Carcasse ( alround excluding bottom & top side) shall be finished in 3.5 mm th. decorative veneer ply Sucupira.Drawer fronts finished in Cerejera vineer ply. inside surfaces of carcasse and drawers shall be finished with 1.0mm thick laminate					
	FINISH					
	Wood & veneer protected by 1 coat of base coat and top coat of acrylic (clear gloss ).All hidden surfaces left without lamination to be finished with spirit polish. All complete as per drg, approval and instructions of the Engineer – in – charge.	Each	2			
	<b>TOTAL OF WORKSTATIONS / TABLES CARRIED TO SUMMARY OF FURNISHING WORK</b>					

<b>SUMMARY of FURNISHING WORK</b>		
<b>S.NO.</b>	<b>DESCRIPTION</b>	<b>AMOUNT (in fig. &amp; words)</b>
I	FALSE CEILING	
II	PARTITIONS AND WALL PANELLING	
III	DOORS / WINDOWS	
IV	WINDOW DRAPERY	
V	STORAGES	
VI	WORKSTATIONS / TABLES	
<b>TOTAL OF FURNISHING CARRIED OVER TO GRAND SUMMARY</b>		

C -ELECTRICAL WORKS						
S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	<b>SECTION - '1'</b>					
	<b>MCCB AND DISTRIBUTION BOARD</b>					
1	Supplying & fixing MCCB IN THE EXISTING SIXTH FLOOR PANEL	Set.	1			
	160A, 4 pole, 36kA, MCCB with spreader & ROH					
	The MCCB shall be with built-in microprocessor based protection					
	releases O/C,S/C, earth fault, with 1 no. CTs. & complete in as required.					
	<b>MCB DISTRIBUTION BOARDS</b>					
2	Supplying & fixing of single pole blanking plate in existing MCB DB complete as required.	Each	20			
3	Supplying and fixing of 20 amps. 240 volts , SPN , industrial type socket outlet, with 2 pole and earth metal enclosed plug top along with 10KA C - curve 20 amps, SP MCB, in sheet steel enclosure, on surface or in recess with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc.as required.	Each	2			
4	Supplying & fixing of following 4 teir/row moduler double door,three phase & neutral,415 V, IP-42/IP-43 protection sheet steel MCB distribution board on surface /recess,complete with tinned copper					
	insulated busbars,neutral links, earth bars, din channels, detachable gland plates, interconnections, including painting, earthing & with 40/ 63A, 4Pole I/c MCB etc.as required :					
a	24 Module (8module per row and provison for 4pole I/C) & with	Each	2			
	I/C-63A, 4P MCB 1 No. + 6-32A SP MCBs-18Nos. + 63A, 30mA, DP RCCB-3Nos.					

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
b	36 Module (12module per row and provision for 4pole I/C) & with I/C-63A, 4P MCB 1 No. + 6-32A SP MCBs-30Nos. + 63A, 30mA, DP RCCB-3Nos.(For UPS DB)	Each	1			
c	8 way TPN vertical type DB for indoor AC units I/C-63A,4P 100mA RCBC ) 1 No. + 6-32A SP MCBs-15Nos + 16A TPMCE 3Nos.	Each	1			
5	Supplying installation testing & commissioning of Four Pole MCB box complete with 63 , 10KA, D-curve ,Four Pole MCB with connections, cable end box to receive I/C cable ,earthing etc.as required:(For UPS )	Each	2			
6	Supplying installation testing & commissioning of Four Pole MCB box complete with 40A / 63 A,10KA C-curve,Four Pole MCB with connections, cable end box to receive I/C cable ,earthing etc.as required:	Each	6			
7	Supplying, installation, testing & commissioning of Four Pole MCB box complete with 6 A - 32 A,10KA C-curve two pole MCB, connections, blanking plates earthing etc.as required:	Each	2			
<b>SUB-TOTAL OF SECTION-1</b>						

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	<b>NOTES:</b>					
	1)Main L.T.Panel shall be suitable to receive all incoming & outgoing from Top/Bottom					
	2)All MCCB's shall be with extended type Door operating mechanism with door interlock. phase barriers & copper spreaders.					
	3)All MCCBs shall be with variable over load and short circuit releases,1No. ON lamp with control fuse					
	4) Ics=100%Icu, for all MCCBs					
	5)All CT's shall be cast resin type.					
	6)All outgoing feeders shall have 1No. ON lamp with control MCB					
	7) All MCBs to be C-Curve, 10KA & D-Curve for UPS use.					
	8) All wires / cable shall be FRLS insulated,stranded copper conductor.					
	9) All floor mounted type panels shall have ISMC channel of suitable size.					
	10)All Energy Analyzer shall be with communication port					
	<b>SECTION - '2'</b>					
	<b>POWER CABLES AND SUB MAIN.</b>					
1	Supply , Installation , testing and commissioning of 1100 V grade aluminium conductor extruded XLPE insulated PVC inner sheath, GI wire/tape armoured (as specified below) & outer PVC sheathed cable of following sizes & as per specifications, in trenches, on cable racks or trays or in pipes, including supply of GI clamps & screws and providing aluminum cable tags at every 20 meters & at both termination points , including unloading and transportation of cables at site , unpacking , complete with labour and material :					
a	3.5C X 150 sq.mm. A2XFY(For AC Panel)	Mtrs.	50			
b	4Nos X 25 sq.mm. Cu.FRLS+ 2Nos x10sqmmCu. FRLS as earth wire in MS conduit.(cost of MS conduit is included	Mtrs.	75			
c	4Nos X 10 sq.mm. Cu.FRLS+ 2Nos x6sqmmCu. FRLS as earth wire in MS conduit.(cost of MS conduit is included	Mtrs.	20			

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	<b>Note- (Incoming cable from Existing main panel to sixth floor panel is not taken . Existing cable shall be used</b>					
	1) All cables shall be as per IS:1554 Part-1 / IS:7098 Part-1					
	2) The cable lengths furnished here are tentative. The Contractor shall submit a cable schedule with actual length of cable after award of job. Cable procurement shall be taken up after the schedule is approved.					
	3) Payment shall be as per actual measurement of laid cables at site as certified by site engineer.					
<b>2</b>	Supply and installation of cable end termination for 1100 V grade Armoured cables using brass double compression cable glands and aluminium thimbles with manual / hydraulic crimping method , earthing of cable armour connection to equipment using cadmium plated bolts, nuts & spring washers , restoration of complete cable insulation ( Aluminium thimbles for aluminium conductor cables & copper thimbles for copper conductor cables will be used.), consumables etc., as per specifications					
<b>a</b>	3.5C X 150 sq.mm. A2XFY	Nos.	2			
<b>3</b>	<b>RACEWAY</b>					
	Supplying & fixing of following sizes of G.I.under floor raceways with 1.6mm thick cover in recessed including cutting the wall / floor and making good the same in case of recessed system ( For Electrical / Telephone / Datacommunication systems ) as required					
<b>a</b>	300 mm x 38 mm x 1.6mm thick ( 3 Partitions)	Metre	100			
<b>4</b>	Supplying & fixing of following sizes of GI Junction Boxes 60 mm deep,for above trunking made of 1.6mm galvanized sheet and 1.6	Each	40			



S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	mm cover made from GI steel sheet, with cover on all four sides.					
5	Supplying & fixing of following sizes of GI Crossover Boxes 75 mm deep,for above trunking made of 1.6 mm galvanized sheet and 1.6 mm cover made from GI steel sheet, with cover on all four sides.	Each	8			
6	Supply, Fabrication and installation of supports in structural steel. The supports shall be constructed preferably out of M.S. hollow sections / ISMC / other structural steel & all support structure shall beof bolted / welded construction. The cost of plated hardware is also included in the item. The supports & hardware shall be painted with one coat of matching primer and two coats of final enamel paint the shade of paint shall be matching with building steel structure.	KG	50			
<b>SUB TOTAL OF SECTION `2`</b>						
<b>SECTION - `3` EARTHING</b>						
1	Supply, installation & testing of earthing station with 600 X 600X 3.15 mm thick copper plate electrode. 2 Nos.32X 6mm copper strip connecting the inspection chamber to copper plate electrode, 50 mm.dia `B` class GI pipe. G.I. funnel with GI wire mesh , cement concrete chamber with concrete base, CI. manhole cover dia 560 mm heavy duty with frame & packing of a mixture of charcoal and salt around plate electrode and excavation & backfilling of all kinds of earth, masonry work, connec- ting the earth pit with earthing grid with bitumen covering of joints , all work as per IS:3043 , typical drawing and Technical Specifications ( Chamber size 600 X 600 X 400 mm deep )	Nos	2			
2	Supply, installation & testing of earthing station with 600 X 600X 6.3 mm thick G.I plate electrode. 2 Nos.50 X 6mm GI strip connecting the inspec- tion chamber to G.I., plate electrode, 50	Nos	2			

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	mm. dia `B' class GI pipe. G.I. funnel with GI wire mesh,cement					
	concrete chamber with concrete base Cl. manhole cover dia 560					
	mm heavy duty with frame and packing of a mixture of charcoal					

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	and salt around plate electrode and excavation and backfilling of all kinds of earth , masonry work , connecting the earth pit with earthing grid with bitumen covering of joints , all work as per IS:3043, typical drawing and Technical Specifications (Chamber size 600 X 600 x 400 mm deep)					
<b>3</b>	Supplying and fixing in position the following bare earthing conductors at a depth of 600mm below ground level/on surface/on structure/in pipe including providing all fixing accessories, GI fixing hardware & effecting proper connections with anticorrosive painting of joints, as per specific- ation, excavation and backfilling of earth.					
<b>a</b>	Copper flat 25 mm X 6 mm.	Mtrs.	50			
<b>b</b>	GI flat 50 mm X 6 mm.	Mtrs.	50			
<b>c</b>	8SWG Copper wire	Mtrs.	10			
<b>d</b>	GI flat 25 mm X 3 mm.	Mtrs.	50			
<b>TOTAL OF SECTION '3'</b>						
<b>SECTION '4'</b>						
<b>LIGHT POINT WIRING</b>						
	Point Wiring of the following light / power outlets with ISI marked 1.6 mm thick MS conduit pipes either on surface or concealed, complete with all accessories like brackets, clamps saddles, pull through / junction boxes, bends, fan boxes, grid plate, screw less modular cover plate and ISI modular switch, socket & accessories, FRLS insulated single core copper ( phase, neutral & earth ) cable of specified sizes including earthing of switch boxes / fittings, providing all accessories and interconnections as required to complete the installation as per drawings & technical					

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	specifications. All cables / wires shall be stranded, 1100 Volt grade and ISI .					
1	MCB controlled Light Circuit Point with 3 nos 2.5 sq.mm FRLS insulated copper cables from Lighting Distribution Board (LDB) to the first and subsequent switch boxes or to the first light point from LDB & complete in all respects as specified above ( cost of switch box , switches and MCB excluded )	Nos.	50			

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
2	2way light point wiring with 5nos 1.5 sqmm FRLS insulated copper cable from switch to the first light fitting, including the supply and fixing of GI switch boxes , grid plate, screw less modular cover plate and modular type 2 - way switches at both ends and complete in all respects as specified above (cost of switch box & switches included). One light point controlled by two nos two way switch	nos	4			
3	Light point wiring using 3 nos 1.5 sq mm FRLS insulated copper cable from the switch box to the first light point , including the supply & fixing of GI switch boxes, grid plate,screwless modular cover plate with modular type 6A switch as required and complete in all respects as specified above (cost of switch boxes and switches included).	Nos.	65			
4	Looped Light Point wiring with 3nos 1.5 sq mm FRLS insulated copper wires looping from one light point , to another termination at light fitting and complete in all respects as specified (cost of light fitting excluded)	Nos.	65			
5	Wall /exhaust fan point with 3 nos 1.5 sq mm FRLS insulated copper cable including termination , supply , fixing, testing and commissioning of controlling switch modular type fixed on switch board along with other switches and supply , fixing , testing and commissioning of 1 No. 3 pin 6 A socket,GI switch box, grid plate and 6 A plug top but without the switch near the wall fan	Nos.	10			
6	6 A Five pin light plug point using with 3 nos 2.5 sq mm FRLS insulated copper wires including termination & providing of 6A modular type switch socket , grid plate and screw less cover plate along with GI box and complete in all respects as specified above	Nos.	80			
7	6 A Five pin light plug point using with 3 nos 2.5 sq mm FRLS	Nos.	80			

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	insulated copper wires including termination and complete in all respects as specified above(Switch &socket shall be paid separately)					
8	Supplying & fixing of 6 A Five pin light plug point using with 3 nos 2.5 sq mm FRLS insulated copper wires including termination & providing of 3nos 6A modular type sockets&1no X16A Switch , grid plate and screw less cover plate along with GI box and complete in all respects as specified above	Nos.	80			
9	Wiring for primary power plug / industrial socket / light point with 3 X 4 sq mm. FRLS insulated copper conductor, single core cable including connectors in surface/ recessed steel conduit as required and as per above specifications each point upto 15 Mtr length )	Nos.	9			
10	Wiring for secondary power plug / industrial socket / point looped from primary point with 6 X 4 sq mm. FRLS insulated ,copper conductor, single core cable in surface /recessed steel conduit as required and as per above specifications each point upto 15 Mtr length )	Nos.	7			
11	Supplying & fixing of 6 pin 15/16 amps modular socket outlet with GI box ,grid plate & screw less modular plate ,15 / 16 amps modular switch, including connections etc. as required & as specified above	Nos.	16			
12	Supplying & fixing of 5 pin 6 amps, -3Nos. modular sockets outlet point using 3 Nos. 2.5 sqmm FRLS insulated copper wires with GI box ,grid plate & screw less modular plate , 1 No.16 amps modular switch, 1 No. Blanking Plate, including connections etc. as required & as specified above	Nos	80			
<b>TOTAL OF SECTION '4'</b>						

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	<b>SECTION '5'</b>					
	<b>CONDUIT &amp; SERVICES</b>					
	<b>Fire Detection &amp; Alarm System</b>					
1	Supplying , fixing and laying of heavy duty MS conduit in false ceiling, floor , wall panelling or partitions etc. includes all chase cutting and making the surface good along with the 18 SWG GI pull wire complete with all the accessories & as specified above, of the following sizes.					
a)	20 mm	RM	300			
b)	25 mm	RM	100			
2	Supplying , fixing and laying of heavy duty PVC conduit in floor, wall panelling or partitions etc. includes all chase cutting and making the surface good along with the 18 SWG GI pull wire complete with all the accessories & as specified above, of the following sizes.					
a)	20 mm	RM	50			
b)	25 mm	RM	50			
3	Providing, installation, testing & commissioning of Ionization / optical type with blinking LED Smoke Detectors with imported base.(Below and above false ceiling)	Each	50			
4	Providing , installation, testing and commissioning of Rate of rise cum fixed bimetallic type Heat Detectors with base .	Each	1			
5	Providing, installation, testing & commissioning of Response Indicators	Each	40			
6	Providing, installation, testing & commissioning of Electronic	Each	3			

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	Hooters					
7	Providing , installation , testing & commissioning of Glass Break Type Manual Call Point.	Each	3			
8	Providing , installation , testing and commissioning of Exit Sign Boards ( EXIT AND ARROW ) with 5W LED & battery backup	Each	2			
9	Supplying & laying of 2 x 1.5sqmm. FRLS insulated, copper, conductor wire in existing conduits in recess / surface including termination as req .	Meter	500			
10	Supplying & laying of 3 x 1.5sqmm. FRLS insulated, copper, conductor wire in existing conduits in recess / surface including termination as req .	Meter	50			
11	Removal of existing sprinklers installed and reversing them to get fixed into the false ceiling using flexible sprinkler pipe. Complete with new sprinkler and hangers to suspend the pipes. Cost to be calculated on per sprinkler/ point basis.	Nos	65			
	<b>PA System</b>					
12	Supply and laying of following sizes of flexible copper conductor, PVC insulated shielded 2C X 2.5 sqmm tinned copper wires in 20 mm dia existing MS Conduits for speakers	Meter	500			
13	Supplying , installation , testing and commissioning of 6W Ceiling mounted speakers with LMT speakers:	Each	14			



S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	<b>CCTV</b>					
	Supplying, installation, testing & commissioning of the following, with all mounting accessories / arrangements as required.					
14.1	Supplying and drawing co- axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ steel conduit as required.	Meter	50			
15	Supplying, laying, terminations, testing & commissioning of 2 pair X 0.61 mm PVC insulated, PVC sheathed and taped tinned copper telephone unarmoured cable in existing conduits/Raceway	Meter	1200			
16	Supplying, laying, terminations, testing & commissioning of Co-axil (RG-6)cable solid annealed bare electronic grade copper conductor co-axil cable with gas injected physical foam PE dielectric poly-laminated aluminium wire braiding ,jelly filled & overall PVC sheathed in black colour including 20mm dia MS conduit on surface and complete with fixing accessories	Meter	50			
17	Supplying, laying, terminations, testing & commissioning of 4 pair UTP Cat - 6 PVC insulated, PVC sheathed tinned copper conductor cable in existing conduits/Raceway as required	Meter	1500			
18	Supplying and fixing modular type RJ -11 telephone sockets housed in GI boxes recessed in walls / partitions / panelling for telephone, outlets, including modular grid plate and screw less cover plate complete in all respects and as specified	Each	80			
19	Supplying and fixing modular type RJ - 45 UTP sockets housed in GI boxes recessed in walls / partitions / panelling for Data outlets, including modular grid plate and screw less cover plate complete in all respects and as specified	Each	80			
20	Supplying and fixing in position of 200 Pair powder coated MS	Each	1			

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	housing for telephone tag block with hinged & lockable door					
	including supply & fixing of tag block made out from self					
	extinguishing polystrene material, corrosion resistant, highly					
	resistant to shock, sturdy and maintenance free KRONE type					
	telephone tag block complete as required					
	<b>SUB TOTAL OF SECTION `5'</b>					

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
	<b>SECTION '6'</b>					
	<b>LIGHTING FIXTURES AND FANS :</b>					
	1. The rates for fixing of lighting fixtures and fans shall include all fixing accessories that may be required to make the installation complete in all respects such as:					
	a. Providing suitable length of down rod, hanger, metallic flexible pipe with couplers at both ends and connecting wires wherever required.					
	b. Internal wiring between accessories.					
	c. Connector blocks for connecting the wires from fixtures to the points.					
	d. Earthing of fixtures and fans.					
	e. Approved enamel painting of down rods, clamps and other components and fixing accessories					
	f. The Electronic ballast shall be constant voltage heavy duty type & suitable to work on DG, inverter & on Normal supply ( GRID) hum free, THD shall be less than 10%					
	2. All FTL lamps( T-8) to be Lumilux plus or Trulite lamps & All T-5 Lamps to be High Efficiency lamps.					
	3. Minimum Lumen Out put of Lamps shall be as follows:					
	LED Lamp 100lumens per watt.					
	4. Lamp Life of LED Lamps to be minimum 50000 Hrs respectively and colour tem.shall be6500.					
	4. Lamp Life of T-5 Lamps to be minimum 15000 Hrs & 24000 Hrs respectively.					
1	SITC of LED recessed type downlight of 12 watt using COB Technology and CR 80. Luminaire body made of Die -cast aluminium. (Make- Philips/Wipro/Havells)	Each	100			

S.No	Description	Unit	Qty.	Rate ( Rs )	Rate ( Words )	Amount ( Rs )
2	Supply, Installation, testing & commissioning of translucent PMMA Cover. for system ceiling with exposed grids, false ceiling. Dimension ( L x w x H) 595mm x 595 mm x 90mm, cut out dimension (L x W) 570mm x 570 mm Harmonious light effect due to homogeneously illuminated light emissions. Cover of translucent PMMA. with Luminaire luminous flux 3600lm, connected load 36W, luminous efficiency of luminaire 100 lm/W. Light Colour temperature- 5700 K, Colour rendering index F > 80 Service life 50000 operating hours. Power coated CRCA, white (Make- Philips/ Trilux /Osram or equivalent )(Make- Philips/Trilux /Bajaj/Syska )	Each	62			
3	SITC of pre-wired, decorative type mirror light with 10W LED lamps of all types, complete with all accessories etc. directly on wall, including connections with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	6			
4	SITC of Sleek surface LED Batten. Suspended / Surface Mounted with length of 1200mm available. With diffused polycarbonate cover, integrated flush into the luminaire body. Best in class LEDs, with Luminaire luminous flux 4000lm, connected load 36/40W, luminous efficiency of luminaire 110 lm/W. Light Colour temperature-3000 K/ 4000 K/ 5700 K, Colour rendering index Ra > 80. Operating Temperature range: -10degC to 45degC, IP 20. Extruded Aluminium Housing with 28X43X1150mm(WxHxL) (Make- Philips/Wipro/Havells)	Each	8			
5	Supplying, installation, testing & commissioning of Heavy Duty Decorative type 450mm sweep wall fan. with louver	Nos	3			
<b>SUB TOTAL OF SECTION '6'</b>						

SUMMARY OF ELECTRICAL WORKS		
S.No.	DESCRIPTION	AMOUNT ( Rs )
1	MCCB AND DISTRIBUTION BOARD	
2	POWER CABLES AND SUB MAIN.	
3	EARTHING	
4	LIGHT POINT WIRING	
5	CONDUIT & SERVICES ( PA, Data & Telephone Systems )	
6	LIGHTING FIXTURES AND FANS :	
<b>TOTAL ELECTRICAL WORKS CARRIED TO GRAND SUMMARY</b>		

D Airconditioning Works (HVAC)						
S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
<b>A</b>	<b>VARIABLE REFRIGERANT VOLUME SYSTEM</b>					
	Supply of AIR COOLED AND ALL COMPRESSOR INVERTER BASED VARIABLE REFRIGERANT VOLUME MODULAR TYPE AIR CONDITIONING SYSTEM with R410A suitable for 415 ± 10% OCB, 50 Hz. The unit shall consist of multiple indoor units, external condensing units and other accessories as listed below, complete in all respects including the open software protocol (BACNET over IP/ RTU MODBUS) for integration with BMS system, as under:					
<b>1</b>	<b>Outdoor Unit</b>					
	Supply of Modular type outdoor condensing units equipped with highly efficient scroll compressors, heat exchanger, low noise condenser fan with DC motor, auto check function for connection error, auto address setting, with nominal capacities as mentioned below. <b>The unit shall be covered by anti-corrosion paint / film.</b>					
	28 HP Heat Pump type	No.	2			
	10 HP Heat Pump type (for Fresh Air, TFA)	No.	1			
<b>1.1</b>	<b>Indoor Units</b>					
b.	Supply of ceiling mounted cassette type indoor units each complete with coil, pre-filter, decorative panel, drain pump etc..The Nominal capacities shall be as follows: Quoted price shall be included with termination Point (MCB/isolator box)					
	<b>Cassette Type</b>					
	<b>Capacity</b>					
1.1.1	1.0 TR (1 Way Cassette)	Nos.	3			
1.1.2	1.6 TR (1 Way Cassette)	Nos.	3			
1.1.3	2.0 TR (1 Way Cassette)	Nos.	1			
1.1.4	2.4 TR (4 Way Cassette)	Nos.	1			

S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
1.1.5	3.2 TR (4 Way Cassette)	Nos.	2			
1.1.6	4.0 TR (4 Way Cassette)	Nos.	8			
	Supply of Ceiling mounted built-in /ductable fresh air intake type indoor units each complete with coil, pre-filter etc.The Nominal capacities shall be as follows: Quoted price shall be included with termination Point (MCB/isolator box)					
	<b>Ductable Type</b>					
	<b>Capacity</b>					
1.1.7	8.0 TR / 1200 CFM	No.	1			
1.2	Supply of Imported Remote controllers (Cordless) for operation of indoor units					
1.2.1	Corded Remotes for Ductables and Cassette	Nos.	19			
1.3	Supply of Imported fittings Y-joints and headers for all Indoor units at both floors, as per layout drawings	Nos.	16			
1.4	Supply of Each offered centralized remote controller LCD/LED Push Button type	No.	1			
	<b>Total of Sub Head 'A'</b>					
<b>B</b>	<b>LOW SIDE</b>					
1	<b>Equipment</b>					
	<b>Extract Fans</b>					
1.1	Supply, installation, testing and commissioning of propeller Fans complete with gravity louvers, bird screen and all accessories as may be required for pantry / toilet extract air:					
	<b>CFM</b> <b>Phase</b>					
	100                          Single	Nos.	4			

S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
1.2	Supply, installation, testing and commissioning of inline circular Fans complete with gravity louvers, bird screen and all accessories as may be required for pantry / toilet extract air:					
	<b>CFM</b>	<b>Phase</b>				
	400	Single	Nos.	1		
	200	Single	Nos.	1		
<b>2</b>	<b>Installation of Variable Refrigerant Volume System</b>					
	ITC of <b>AIR COOLED AND All COMPRESSOR INVERTER BASED VARIABLE REFRIGERANT VOLUME MODULAR TYPE AIR CONDITIONING SYSTEM with R410A</b> suitable for 415 ± 10% OCB, 50 Hz. The unit shall consist of multiple indoor units, external condensing units and other accessories as listed below, complete in all respects including the open software protocol (BACNET over IP/ RTU MODBUS) for integration with BMS system, as under:					
<b>2.1</b>	<b>Outdoor Unit</b>					
	ITC of Modular type outdoor condensing units equipped with highly efficient scroll compressors, heat exchanger, low noise condenser fan with DC motor, auto check function for connection error, auto address setting, with nominal capacities as mentioned below :					
2.1.1	28 HP Heat Pump type	No.	2			
2.1.2	10 HP Heat Pump type	No.	1			
<b>2.2</b>	<b>Indoor Units</b>					
	ITC of Ceiling mounted built-in /ductable fresh air intake type indoor units each complete with coil, pre-filter etc..The Nominal capacities shall be as follows: Quoted price shall be included with termination Point (MCB/isolator box)					
	<b>Ductable Type</b>					
	<b>Capacity</b>					
2.2.1	8.0 TR	No.	1			



S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
	ITC of ceiling mounted cassette type indoor units each complete with coil, pre-filter, decorative panel, drain pump etc..The Nominal capacities shall be as follows: Quoted price shall be included with termination Point (MCB/isolator box)					
	<b>Cassette Type</b>					
	<b>Capacity</b>					
2.2.2	1.0 TR (1 Way Cassette)	Nos.	3			
2.2.3	1.6 TR (1 Way Cassette)	Nos.	3			
2.2.4	2.0 TR (1 Way Cassette)	Nos.	1			
2.2.5	2.5 TR (4 Way Cassette)	Nos.	1			
2.2.6	3.0 TR (4 Way Cassette)	Nos.	2			
2.2.7	4.0 TR (4 Way Cassette)	Nos.	8			
2.3	ITC of Imported Remote controllers (Corded/Cordless)for operation of indoor units	Nos.	19			
2.4	ITC of Imported fittings Y-joints and headers for all Indoor units at both floors, as per layout drawings	Nos.	16			
2.5	ITC of Each offered centralized remote controller LCD/LED <b>Push Button type</b>	No.	1			
<b>3</b>	<b>Piping</b>					
<b>3.1</b>	<b>Refrigerant Piping</b>					
	Supply,Installation,testing and commissioning of Interconnecting refrigerant pipe work with (19mm/13 mm thick) closed cell nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with MS hanger & clamps.					
3.1.1	41.2 mm O.D. (insulation : 19 mm)	RM	25			
3.1.2	34.9 mm O.D. (insulation : 19 mm)	RM	70			
3.1.3	28.6 mm O.D. (insulation : 19 mm)	RM	35			
3.1.4	22.2 mm O.D. (insulation : 13 mm)	RM	35			
3.1.5	19.1 mm O.D. (insulation : 13 mm)	RM	80			
3.1.6	15.9 mm O.D. (insulation : 13 mm)	RM	80			

S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
3.1.7	12.7 mm O.D. (insulation : 13 mm)	RM	60			
3.1.8	9.5 mm O.D. (insulation : 13 mm)	RM	100			
3.1.9	6.35 mm O.D. (insulation : 13 mm)	RM	70			
<b>3.2</b>	<b>Drain Piping</b>					
	Supply, installation, testing and commissioning of rigid PVC piping complete with fittings, supports as per specifications and duly insulated with 6 mm thick closed cell nitrile rubber insulation .					
3.2.1	40 mm dia	RM	30			
3.2.2	32 mm dia	RM	50			
3.2.3	25 mm dia	RM	95			
<b>4</b>	<b>AIR DISTRIBUTION</b>					
4.1	Supply, fabrication, installation and testing of sheet metal ducts in accordance with the approved shop drawings and as per specifications (duct shall be factory fabricated / site fabricated):					
4.1.1	24 gauge galvanized sheet steel	Sqm	90			
4.2	<b>FLEXIBLE CANVAS CONNECTION</b>					
4.2.1	Supply, fabrication, installation and testing the flexible connections constructed of fire resistance flexible double canvas sleeve as per the approved shop drawings.	Nos.	1.0			
4.3	<b>VOLUME CONTROL DAMPER</b>					
4.3.1	Supply, installation and testing of GI construction Louver dampers within ducts to be provided with suitable ducts lever and quadrants for manual control of volume of air flow and for proper balancing of the air distribution system.	Sqm	0.5			
4.4	<b>LINEAR GRILLES</b>					

S.No.	Description	Unit	Qty.	RATE	RATE	AMOUNT
				(Rs.)	( Words )	(Rs.)
4.4.1	Supply, installation, testing and balancing of powder coated extruded aluminium construction linear grilles with volume control dampers as per approved drawings.	Sqm	1.0			

S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
4.4.2	Supply, installation, testing and balancing of powder coated extruded aluminium construction linear grilles without volume control dampers as per approved drawings.	sqm	1.0			
4.60	FRESH AIR LOUVERS					
4.6.1	Supplying, installing and testing of fresh air Al. intake louvers with bird screen.	Sqm	0.5			
4.70	EXHAUST AIR LOUVERS					
4.7.1	Supplying, installing and testing of exhaust air Al outlet louvers with back draft damper.	Sqm	1.0			
<b>5</b>	<b>INSULATION</b>					
5.1	THERMAL INSULATION FOR DUCTING					
	Thermal insulation of the sheet metal duct with 9 mm thick closed cell elastomeric nitrile rubber insulation of Class 'O' material with density of 40 - 55 kg/cum as per the thickness mentioned below, with thermal conductivity not exceeding 0.034 W/mK at 23 deg C. Adhesive used for the insulation shall be with Low / Zero VOC content (Fevicol eco fresh / Armaflex).	Sqm	70			
5.2	ACOUSTIC LINING OF DUCT					
	25 mm thick Open cell elastomeric Acoustic insulation with density not less than 140 - 180 kg / m3. Insulation material to be fire retardant. All the joints to be sealed air tight with moisture absorbent self adhesive duct tape. Adhesive used for the insulation shall be with Low / Zero VOC content (Fevicol eco fresh / Armaflex).	Sqm	5			
5.3	Exposed Insulation					
	Supply and installation of External thermal insulation with 7mil cloth, two coating of UV protective on external (Exposed to sunlight) Pipes & ducts.					

S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
	9 mm thick closed cell nitrile insulation for exposed supply ducts , return ducts & refrigerant pipes.	Sqm	25			
<b>6</b>	<b>ELECTRICAL WORKS</b>					
<b>6.1</b>	<b>Cables</b>					
	<b>Power Cables :- Supply and laying of following cables in trenches, on cable racks or trays or in pipes, including supply of GI clamps &amp; screws</b>					
6.1.1	4C 10 sqmm Cu. Cable	RM	60			
6.1.2	3C 2.5 sqmm Cu. Cable	RM	200			
	<b>Control &amp; Transmission Wiring</b>					
6.1.3	Supply, installation, testing and commissioning of control cum transmission wiring of 2 core x 1.5 sqmm copper in suitable PVC conduits between indoor & out door unit and between indoor units and their respective remotes.	RM	475			
<b>6.2</b>	<b>ELECTRICAL PANEL FOR VRF UNIT</b>					
6.2.1	SITC of VRF outdoor unit power panel of suitable size with 125A, Aluminium bus bar to accomadate the following MCCBs/MCBs and made out of min 2 mm thick CRCA sheet powder coated complete with MCB, MCCBs, multifunctional meters, LED indicators interconnections, internal wiring, earthing etc as required with below given components.					
	Incomes					
	100 A , 35 KA TPN MCCB - 1 No.	No.	2			
	Outgoings					
	63 A, 16 KA, TPN MCB - 2 Nos.					
	Muiti Fuctional Meter - 1 Nos.					
6.2.2	SITC of 63A MCCB Isolator box for 10 HP ODU	No.	1			
	<b>Total of Sub Head (B) Low Side</b>					
	<b>Grand Total (A+B) CARRIED TO GRAND SUMMAR'</b>					

S.No.	Description	Unit	Qty.	RATE (Rs.)	RATE ( Words )	AMOUNT (Rs.)
<b>Notes:</b>	1) All cabling / piping to be installed neatly and with proper dressing, wherever exposed it needs to be placed in cable trays with cover & saddled properly.					
	2) Scaffolding or any special hanging arrangement requiremnt for the installation of above work will be in the scope of vendor.					
	3) Single phase power points near each indoor units & 3 phase supply with neutral with earthing near outdoor units as per drawings layouts shall be provided by electrical contractor.Further cabling and					
<b>Note:</b>	<b>Bidder is advised to visit site before quoting and understand the complete work involvement.</b>					

<b>E DISMANTLING, TRANSPORTING AND REASSEMBLY OF FURNITURE , FITTINGS</b>						
<b>S.No.</b>	<b>Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Rate (Rs)</b>	<b>Rate (in words)</b>	<b>Amount (Rs)</b>
	<b>NOTE:</b>					
	<b>i Existing office/site means the UBI office at Second Floor, Aggarwal Corporate Tower Rajendra Place, New Delhi -110008</b>					
	<b>ii Proposed site means 6TH FLOOR GLOBAL BUSINESS SQUARE,BUILDIN NO 32, SECTOR-44, INSTITUTIONAL AREA GURUGRAM,</b>					
<b>1.1</b>	Removing the LOW HT. STORAGE CABINETS from existing office transporting to the proposed site and realigning /refixing the same. Approx. Size of each cabinet W750X D 450X 1200 ( Drg -07B)	each	40			
<b>1.2</b>	Removing the FULL HT. STORAGE CABINETS from existing office transporting to the proposed site and realigning /refixing the same. Approx. Size of each cabinet W750X D 450 X 2150 H (( Drg -07B))	each	10			
<b>1.3</b>	Removing the damaged hinges and providing and fixing Self closing hinges to the cabinet shutters	each	30			
<b>1.4a</b>	Providing and fixing 1.0 mm thick premium laminate in approved shade and colour on 8mm thick commercial ply on top/font/side of cupboards or tables etc complete as per drawing and directions	SQM	80			

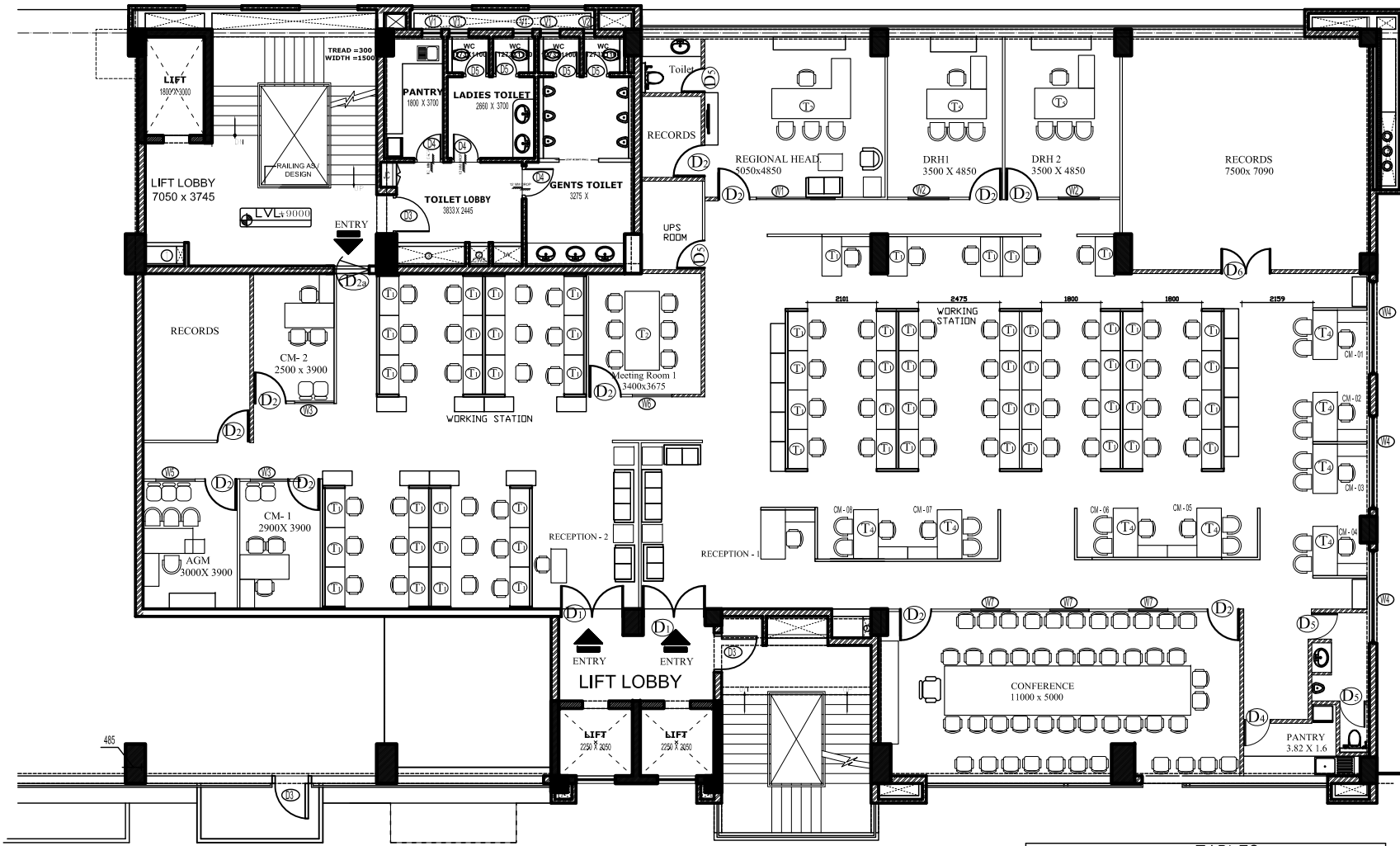
S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
<b>b</b>	Providing and fixing 1.0 mm thick premium laminate on top/side of table tops after scratching/removing the existing laminates/paint/polish complete as per drawing	<b>Sqm</b>	25			
<b>1.5</b>	Removing the complete set of work stations/table along with the moveable storage units / side units , corner/central table chairs, sofas etc from the officers' following existing chambers transporting the same to the proposed site and realigning /refixing etc complete as per directions. transportation of chairs, sofas from the chambers shall be paid seperately . (Drg 07 A )					
<b>a</b>	DRH-1	<b>SET</b>	1			
<b>b</b>	DRH-2	<b>SET</b>	2			
<b>c</b>	GM	<b>SET</b>	2			
<b>d</b>	AGM	<b>SET</b>	1			
<b>e</b>	Regional Head	<b>SET</b>	1			
<b>1.6</b>	Removing from existing office transporting to proposed site and refixing in position following sets of fully knockdown , non welded Compactor storage units including removing and refixing the tracks, adjustable shelves etc from existing office record room to the new proposed site complete as per directions.					
<b>a</b>	Set of Compactor unit consisting of 2nos 450x900X2100 Ht + 2 Nos 900x900X2100 Ht on tracks (Set-2)	Set	1			



S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
<b>b</b>	Set of Compactor unit consisting of 2nos 450x2800X2100 + 3Nos 900x2800X2100 on tracks (Set-1)	Set	1			
<b>1.7</b>	Removing from existing office transporting to proposed site and realigning/refixing in position the existing Conference table of size approx 7500L x 1200-1500 W x 750 H including including repairing the damaged wood work repolishing the same matching the existing polish in specification and shade complete	Nos	1			
<b>1.8</b>	Removing from existing office transporting to proposed site and refixing in position the existing Meeting table of size approx. 2400 L x 1050 Wx 750 H including repairing the damaged wood work and repolishing the same matching the existing polish in specification and shade	Nos	1			
<b>1.9</b>	Removing from existing and transporting the following furniture from existing site to the proposed site					
<b>a</b>	Chairs with/without castors/arms of all shapes and sizes	Nos	100			
<b>b</b>	Sofas of all sizes /shapes					
<b>i</b>	Single seater	Nos	10			
<b>ii</b>	Two seater	Nos	10			
<b>ii</b>	Three seater	Nos	5			
<b>c</b>	Central/Corner tables	Nos	4			
<b>2.0</b>						

S.No.	Description	Unit	Qty.	Rate (Rs)	Rate (in words)	Amount (Rs)
2.1	Removing , realigning and refixing the work stations from existing office to the new proposed site along with the storage system, etc including resizing the work station tops to suit the new size of 2'-0"X 4'-0" to 2'0" X4'6" top per work station and 2'6" Height and finishing as per T-1 of tender drawing D-05 i.e providing fixing new hardware such as handles, locks, and Key Board including polishing etc complete in all respect as per directions	each	4			
<b>TOTAL OF DISMENTALLING ETC CARRIED OVER TO GRAND SUMMARY</b>						

<b>GRAND SUMMARY OF QUOTATION</b>			
<b>S. NO.</b>	<b>DESCRIPTION</b>		<b>AMOUNT (in fig. &amp; words)</b>
A	Civil Work		
B	Furnishing Work		
C	Electrical works		
D	Air Conditioning Works		
E	Dismanting ,transporting and reassembly of existing furniture , fittings at new office premises		
	<b>GRAND TOTAL</b>		
<b>BIDDERS QUOTE IN WORDS</b> .....			
.....			
<b>BIDDERS SIGNATURE</b>			
.....			
<b>BIDDERS SIGNATURE</b>			
.....			
<b>Note</b>			
The GST shall be paid extra on above quoted rates as applicable			



**NOTES**

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**REVISION**

S.No.	R-No.	Date	Revisions
1.	R1	21-06-2023	LAYOUT REVISED
2.	R2	26-06-2023	LAYOUT MODIFIED

**DOOR SCHEDULE**

S.NO.	NAME	DIMENSION	Lint. Lvl.	QUANTITY
1.	D1	1900 X 2400	2400	2
2.	D2a	1000 X 2200	2400	1
3.	D3	1000 X 2200	2400	11
4.	D4	900 X 2200	2400	1
5.	D5	800 X 2200	2400	4
6.	D6	1500 X 2200	2400	1
7.				
8.				

Drawing Title:  
**INTERIOR LAYOUT PLAN**  
*(Partition and panelling)*

Project:  
Proposed Interiors for Union Bank of India at 'Plot No 32', Sector -44, Gurugram

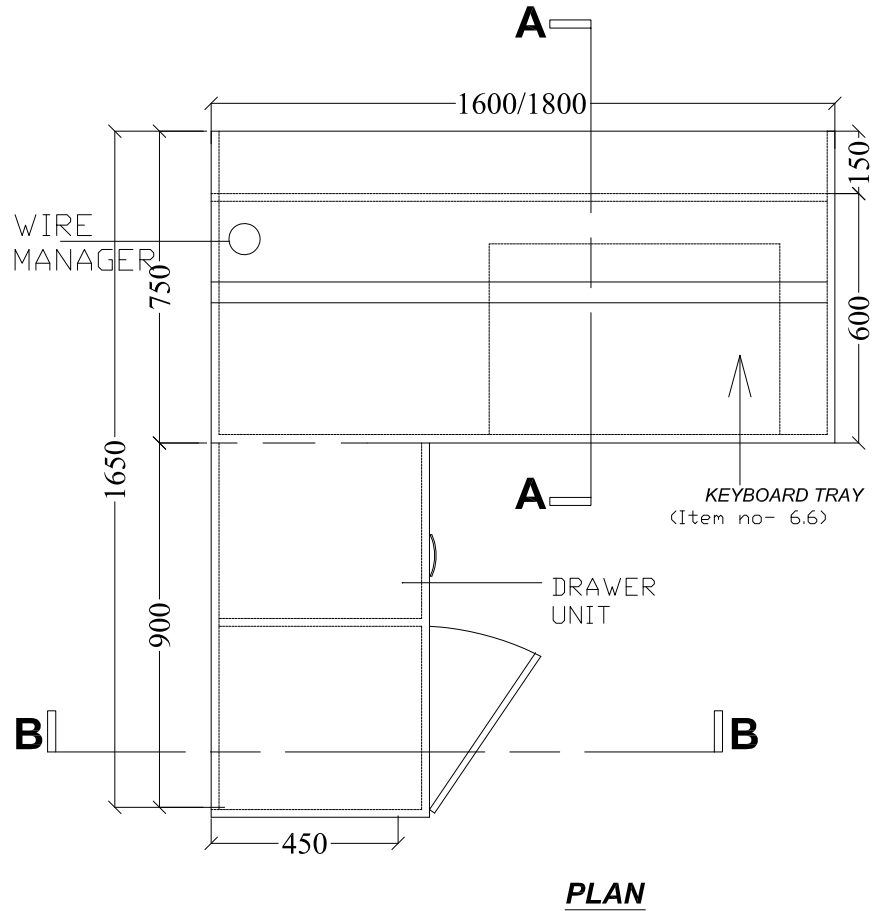
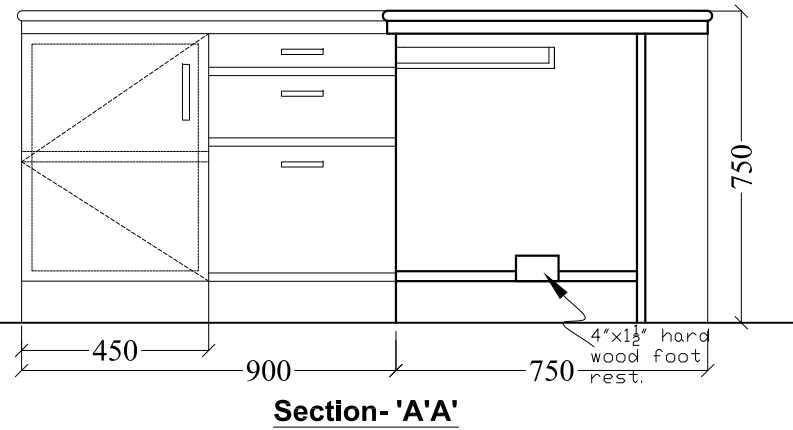
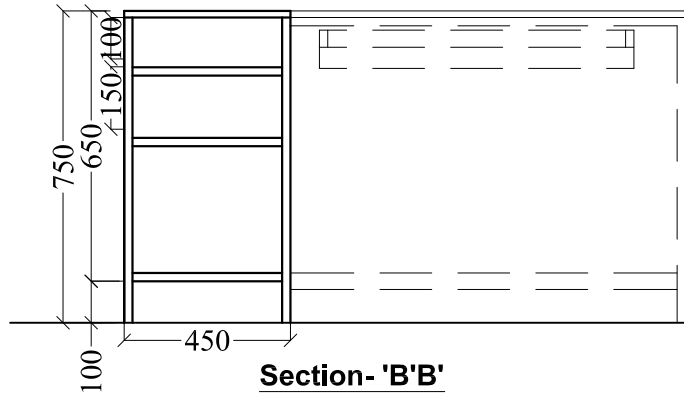
**VASTU MANDAL**  
Architects, Engineers & Interior Designers  
F-328, Lado Sarai, Old M.B Road, N.D-30  
Ph. 41665455, E-mail- vastumandal@gmail.com

Date : 04.06.23  
Drawn By: NITISH

DRG.: ARCH-D- 01

**TABLES**

S.NO.	DESCRIPTION	DIMENSION	QTY.
1	T1	1200 X 600	61
2	T2 (MEETING ROOM)	EXISTING	1
3	T2 (REGIONAL HEAD)	EXISTING	1
4	T3 (DRH 1)	EXISTING	1
5	T3 (DRH 2)	EXISTING	1
6	T4 (CM)	1500 X 750	8
7	CM-1	1500 X 750	1
8	CM-2	1500 X 750	1
9	CONFERENCE	EXISTING	1
10	AGM	EXISTING	1
11	RECEPTION-1	1500 X 750	1
12	RECEPTION-2	1030 X 470	1



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**REVISION**

S-No.	R-No.	Date	Revisions	Issued To

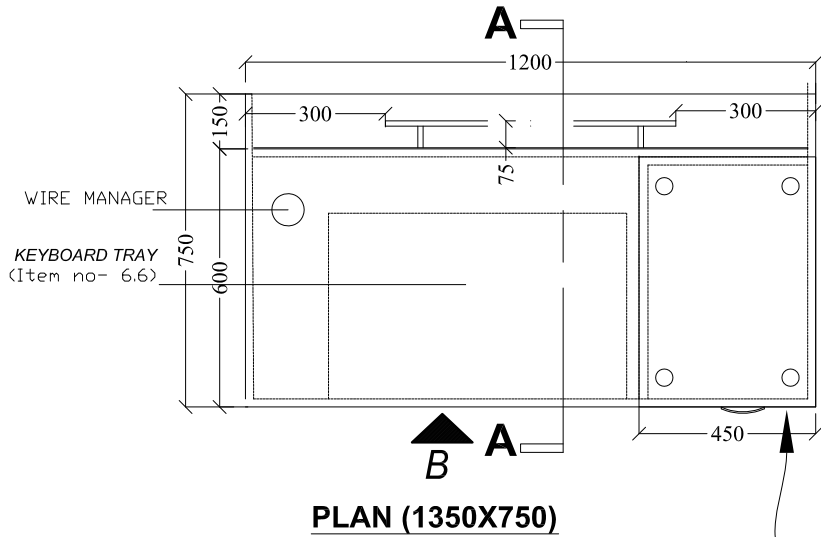
Drawing Title:  
**T8 / T9**

Project:  
Proposed Interiors for Union Bank of India at 'Plot No 32', Sector -44, Gurugram

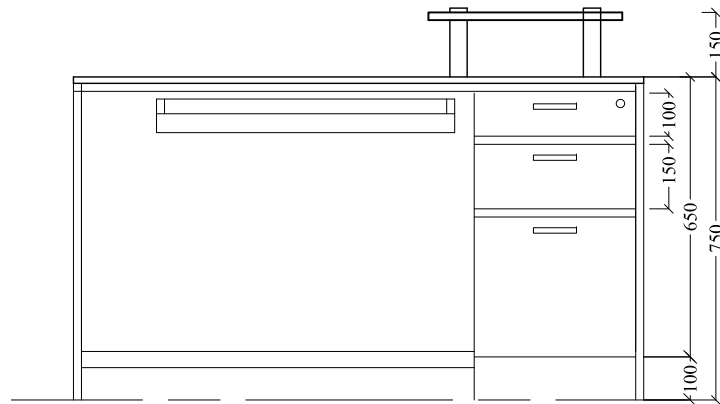
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Architects, Engineers & Interior Designers  
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Ph. 41665455, E-mail- vastumanda@gmail.com

Date : 04.03.17      Drawn By:

DRG.: D- 02

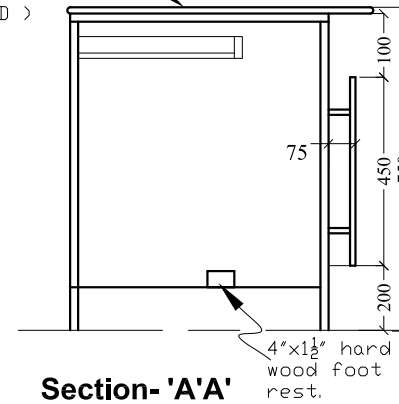


**PLAN (1350X750)**



**Elevation-B**

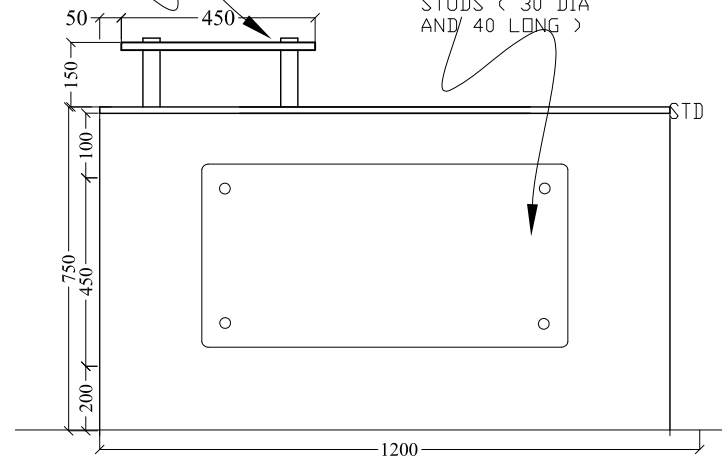
20 THICK GRANITE TOP  
AS/SPECS ( BLUE PEARLS/ EQUIVALENT APPROVED )



**Section- 'A'A'**

GRANITE TOP AS/SPECS ON S.S STUDS ( 40 DIA AND 200 HIGH )

12MM THICK TOUGHENED GLASS AS/SPECS ON S.S STUDS ( 30 DIA AND 40 LONG )



**Front Elevation**

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**REVISION**

S-No.	R-No.	Date	Revisions	Issued To

Drawing Title: T10

Project: Proposed Interiors for Union Bank of India at ' Plot No 32', Sector -44, Gurugram

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Date : 04.03.17      Drawn By:

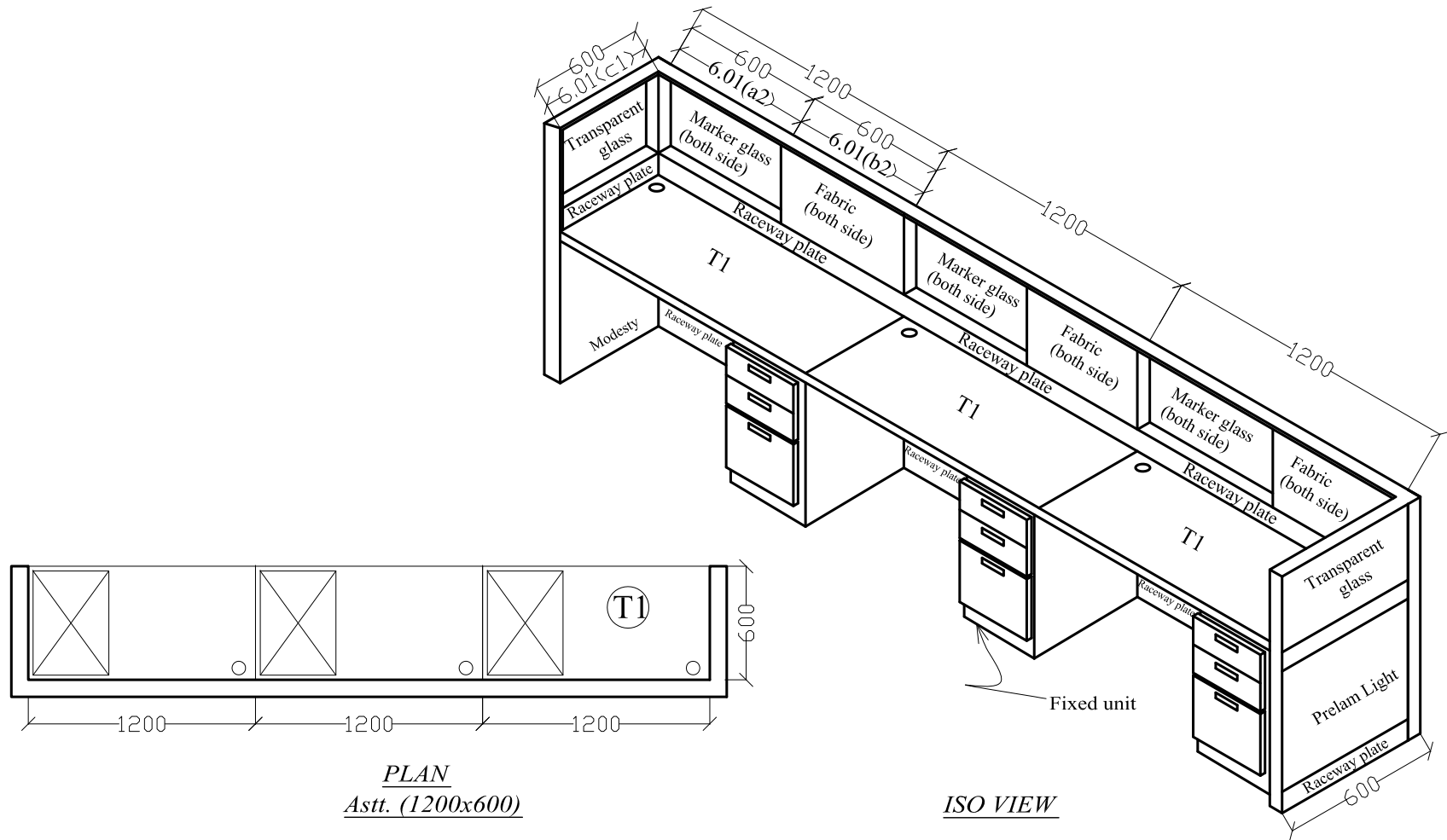
DRG.: D-03

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**REVISION**

S-No.	R-No.	Date	Revisions	Issued To



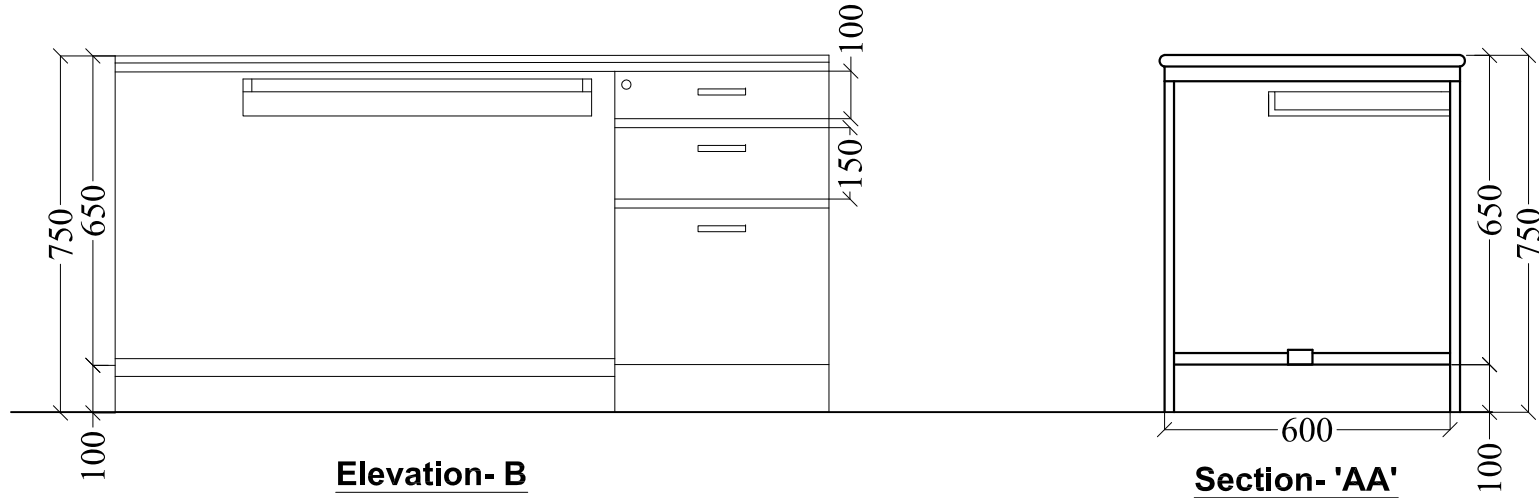
Drawing Title: T1 (Partition)

Project: Proposed Interiors for Union Bank of India at 'Plot No 32', Sector -44, Gurugram

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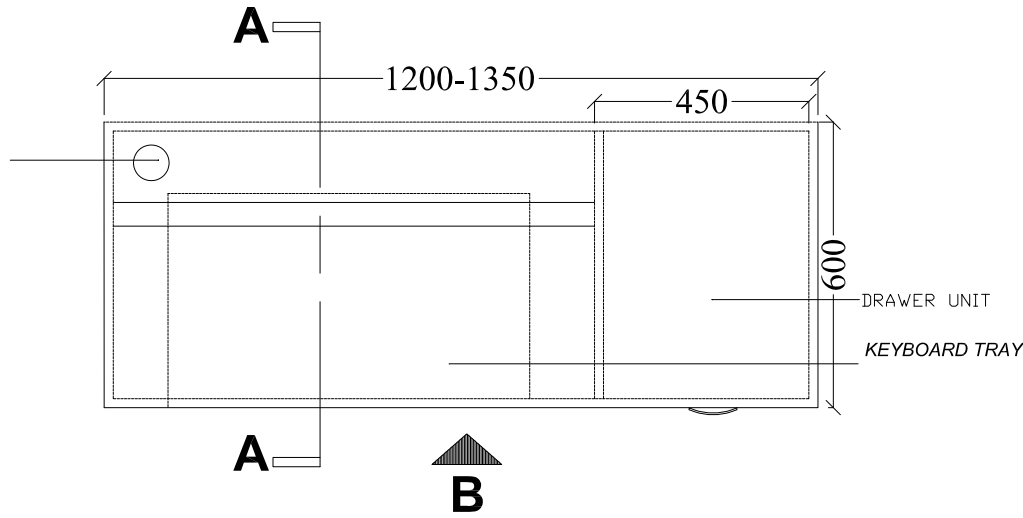
Date : 04.03.17      Drawn By:

DRG.: D- 04



**Elevation- B**

**Section- 'AA'**



**PLAN**

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**REVISION**

S-No.	R-No.	Date	Revisions	Issued To

Drawing Title: T7

Project: Proposed Interiors for Union Bank of India at ' Plot No 32',Sector -44, Gurugram

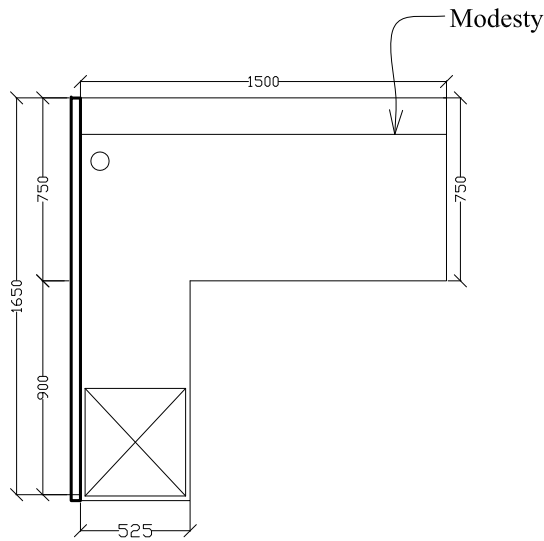
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 Ph. 41665455, E-mail- vastumandal@gmail.com

Date : 04.03.17

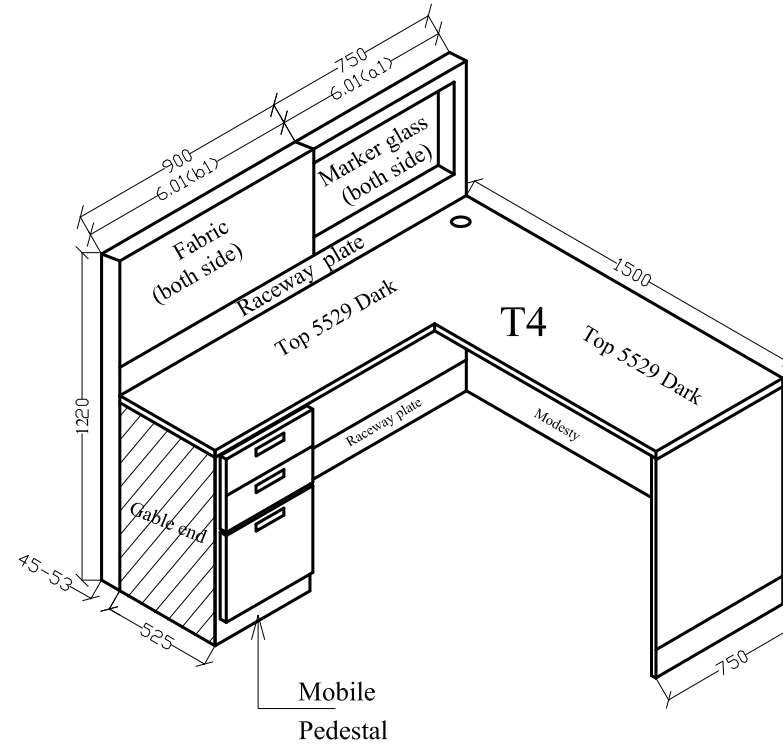
Drawn By:

DRG.: D-05





PLAN  
MGR/DY.MGR.  
1500x750 (900x525)



ISO VIEW

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**REVISION**

S-No.	R-No.	Date	Revisions	Issued To

Drawing Title: T4 (Partition)

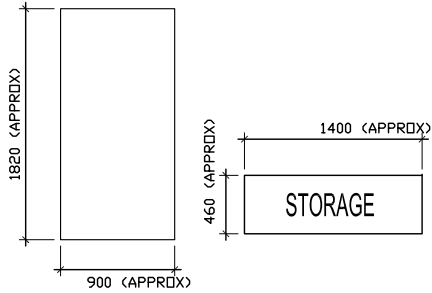
Project: Proposed Interiors for Union Bank of India at 'Plot No 32', Sector -44, Gurugram

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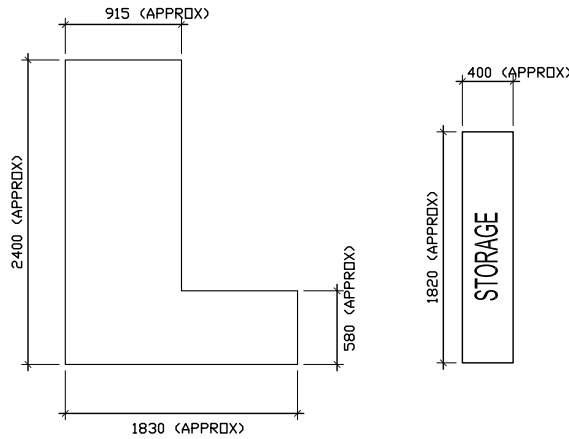
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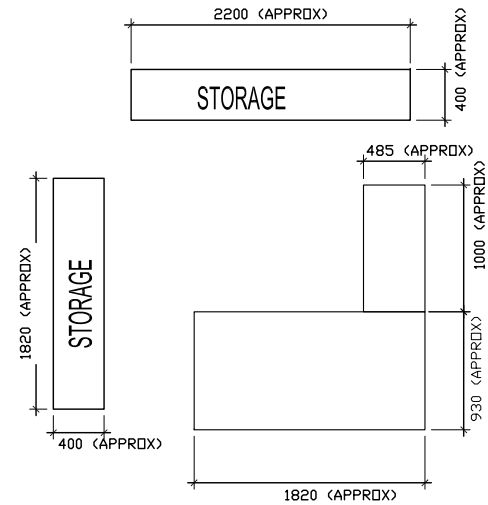
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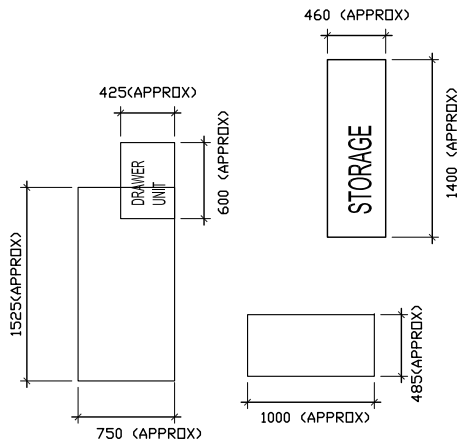
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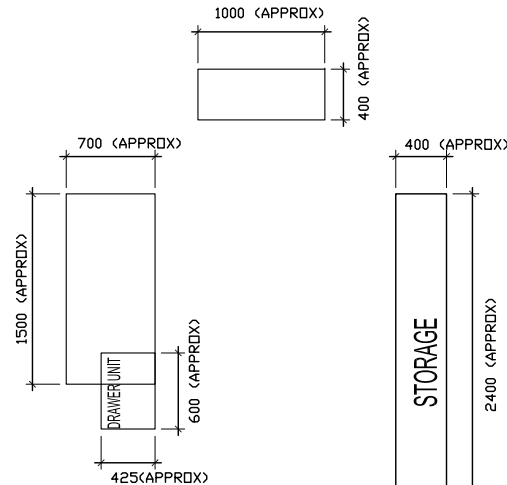
DRH-2



REGIONAL HEAD



AGM



G.M  
Page 69 of 71

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REVISION

S-No.	R-No.	Date	Revisions	Issued To

Drawing Title:

*EXISTING FURNITURE at 2nd floor, Aggarwal Corporate Tower, Rajendra place , New Delhi.*

Project:

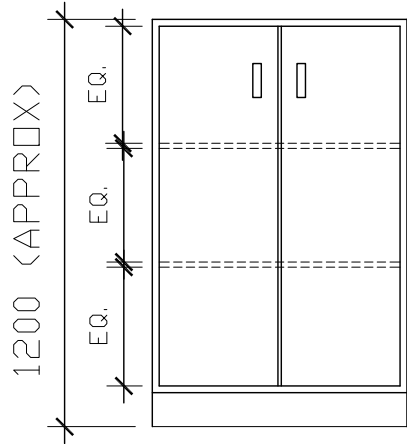
Proposed Interiors for Union Bank of India at ' Plot No 32', Sector -44, Gurugram

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F-328, Lado Sarai, Old M.B Road, N.D.-30  
Ph. 41665455, E-mail- vastumandla@gmail.com

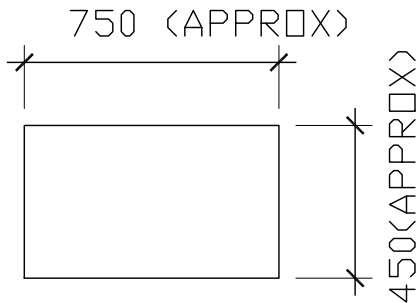
Date :  
28.07.2023

Drawn By:  
NITISH GIRI

DRG.:  
D- 07A

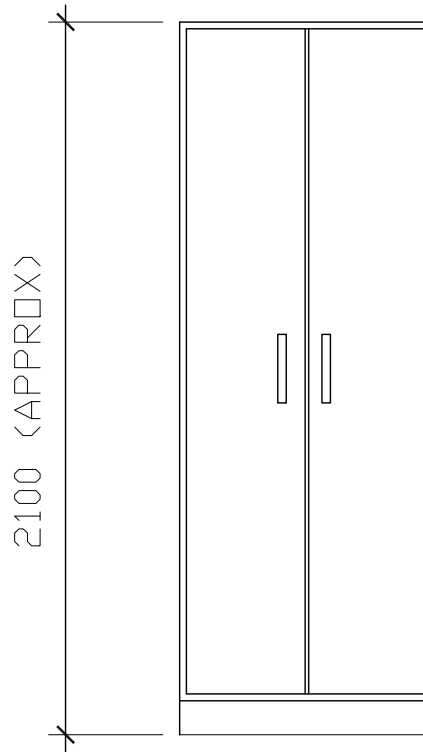


ELEVATION

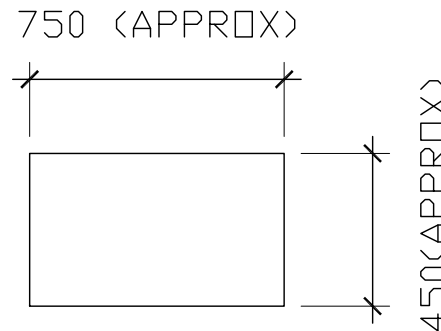


PLAN

LOW HEIGHT STORAGE



ELEVATION



PLAN

FULL HEIGHT STORAGE

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**REVISION**

S-No.	R-No.	Date	Revisions	Issued To

**Drawing Title:**

*EXISTING STORAGE at 2nd Floor, Aggarwal Corporate Tower, rajendra place, New Delhi.*

**Project:**

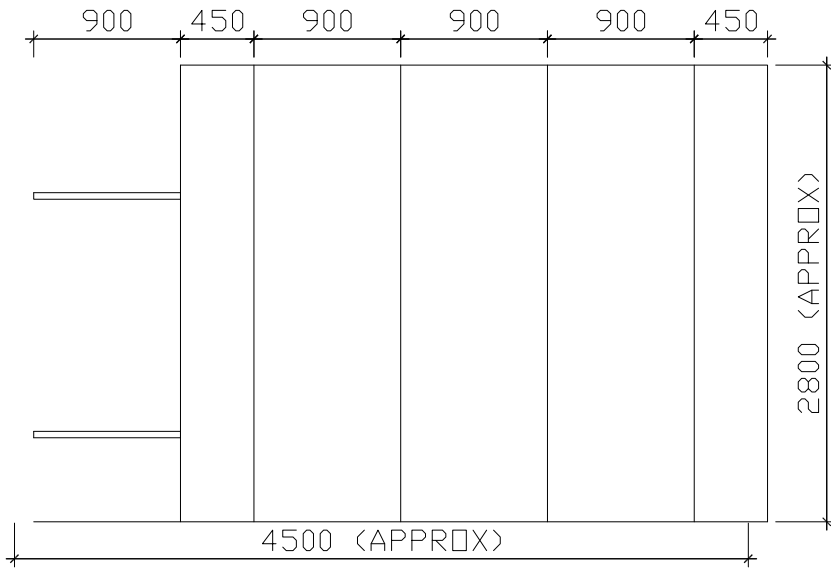
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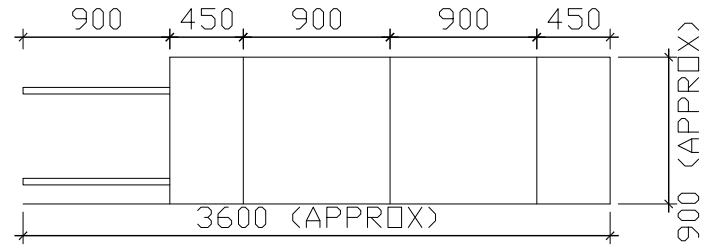
Date : 29.07.2023

Drawn By: NITISH GIRI

DRG.: D- 07B



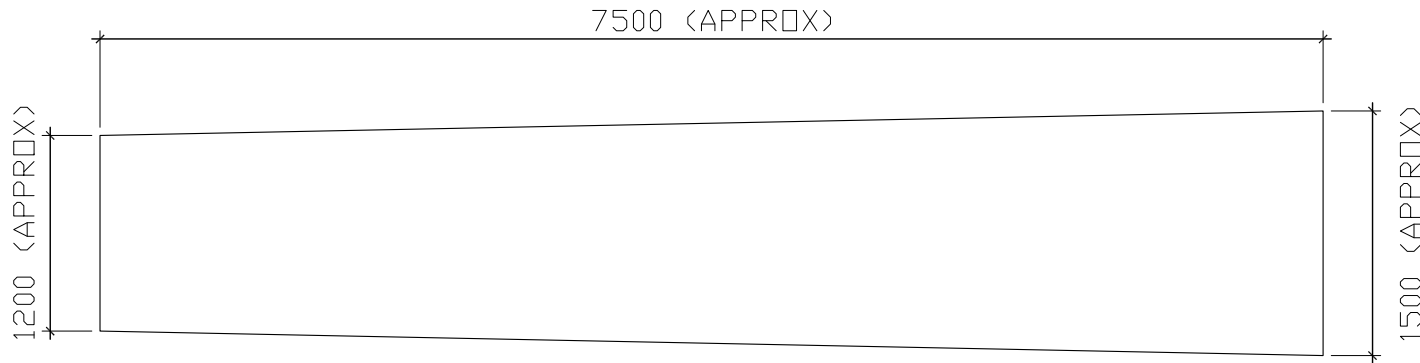
COMPACTOR SET - 1



COMPACTOR SET - 2



MEETING TABLE



CONFERENCE TABLE

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S-No.	R-No.	Date	Revisions	Issued To

Drawing Title:  
*EXISTING FURNITURE at 2nd Floor, Aggarwal Corporate Tower, Rajendra place, New Delhi*

Project:  
 Proposed Interiors for Union Bank of India at ' Plot No 32', Sector -44, Gurugram

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Date :  
 28.07.2023

Drawn By:  
 NITISH GIRI

DRG.:  
 D- 07C