



# TENDER DOCUMENT

FOR

**SUPPLY, INSTALLATION AND COMMISSIONING OF HEATING,  
VENTILATION AND AIR CONDITIONING (HVAC)  
SYSTEM**

FOR

**ICAI BHAWAN BUILDING**

AT

**JODHPUR**

**BOOK- I**

**TECHNICAL BID**

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## **PROJECT INFORMATION**

Project: **HVAC work** of ICAI Bhawan Building at Jodhpur

EMPLOYER: The Institute of Chartered Accountants of India

Head Office : ICAI Bhavans, Post Box No. 7100,  
Indraprastha Marg, New Delhi – 110 002  
Ph : 011 – 39893989 Fax: 011- 30110581

Jodhpur Branch : Guru Roop Rajat, E-32, Kalpatru Shopping Centre,  
Jaljog Choraya, Jodhpur, Rajasthan

Extent of Site: As per the Site Plan attached with the document

Location of Site: The Site is located at Khasra No. 91, Chopasni, Jodhpur, Rajasthan.

Existing Conditions: (To Be Verified By Contractor)

## CONTENTS

SECTION	DESCRIPTION	PAGE NO
I	INVITATION TO BID	4- 7
II	INSTRUCTIONS TO TENDERERS	10-19
III	GENERAL CONDITIONS OF CONTRACT	21-55
IV	SPECIAL CONDITIONS OF CONTRACT	57-64
V	TENDER FORM& APPENDIX TO TENDER FORM	67-70
VI	EVALUATION FORMATS	73-77
VII	FORM OF AGREEMENT	79-83
VIII	ACCEPTABLE FORMS OF BANK GUARANTEES	86-91
IX	SYSTEM DESCRIPTION & BASIS OF DESIGN FOR HVAC SYSTEM	92 - 102
X	LIST OF APPROVED MAKES	103
XI	TENDERED DRAWINGS FOR DETAILED DRAWINGS,	107
XII	BILL OF QUANTITIES	108 - 112

**SECTION - I**  
**INVITATION TO BID**

## **SECTION I - INVITATION TO BID**

Tender Ref. no. ICAI/HVAC/COE- Jodhpur/2018/01

Sealed item rate tenders are invited in two bid system (Technical bid and Price bid) on behalf of The Institute of Chartered Accountants of India (ICAI), for supply, installation and commissioning of heating, ventilation and air conditioning (HVAC) system for ICAI Bhawan Building at Jodhpur, Rajasthan, from eligible Contractors with similar experience and duly filled in bids will be received at ICAI Head Office.

Tender document may be downloaded from ICAI web site [www.icaai.org](http://www.icaai.org), [www.circ-icaai.org](http://www.circ-icaai.org) & [www.icaijodhpur.org](http://www.icaijodhpur.org). The Bidders shall enclose DD/ pay order for Rs. 2000/- + GST @ 18% in favour of Secretary, ICAI payable at New Delhi, towards the cost of Tender document along with tender, failing which, the tender will be summarily rejected.

	<b>Name of work</b>	<b>Earnest Money Deposit (Rs. Lacs)</b>	<b>Time of Completion ( in days)</b>
1	Supply installation testing commissioning of HVAC WORK OF ICAI Bhawan Building at Jodhpur	1.0	45 Days

Bidder can quote subject to, his fulfilling the eligibility criteria and other norms laid down/prescribed in the tender documents.

**NOTICE INVITING TENDERS (Website)**

**THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA (ICAI)**  
**'ICAI BHAWAN', INDRAPRASTHA MARG, NEW DELHI - 110 002**

**NOTICE INVITING TENDER FOR SUPPLY, INSTALLATION AND**  
**COMMISSIONING OF HEATING, VENTILATION AND AIR-CONDITION SYSTEM**  
**(HVAC) FOR ICAI BHAWAN BUILDING AT JODHPUR**

ICAI invites sealed tenders in 2-bid system (Techno-commercial and financial bids in two separate covers) from reputed and experienced Contractors for Supply, Installation and Commissioning of Heating, Ventilation and Air-conditioning (HVAC) for ICAI Bhawan Building at Jodhpur.

**PLEASE SUBMIT ALL DOCUMENTS IN DUPLICATE / XEROX COPIES INCLUDING PART – I & PART – II.**

1.	Name of Project	<b>SUPPLY, INSTALLATION AND COMMISSIONING OF HEATING, VENTILATION AND AIR CONDITIONING SYSTEM (HVAC) FOR ICAI BHAWAN BUILDING AT JODHPUR.</b>
2.	Scope of Work	As Above
3.	Estimated area of work	5000 sq ft.
4.	Availability of blank tender	Tender forms can be downloaded from the website of ICAI i.e. <a href="http://www.icai.org">www.icai.org</a> , <a href="http://www.circ-icai.org">www.circ-icai.org</a> & <a href="http://www.icaijodhpur.org">www.icaijodhpur.org</a>
5.	Cost of Tender Documents	Rs. 2000/- + GST @ 18% (non- refundable) in the form of Pay Order/ Demand Draft only drawn in favor of “ <b>Secretary, The Institute of Chartered Accountants of India</b> ” payable at Delhi.
6.	Submission of Tender	Sealed tender with one set of photocopy of all documents including both Part I and Part II shall be submitted in Two sealed covers as per instructions to Tenderers on or before <b>06-12-2018</b> up to 4.00 pm.
7.	Period of Completion	45 days (Including Rainy Period & Holidays)
8.	Opening of Tender	<p>The Technical bids shall be opened at <b>06-12-2018</b> on 5.0 pm (or if not possible on that day, at a later date which will be intimated accordingly), in the presence of the authorized representative of the tenderers who choose to be present.</p> <p>After evaluating the Technical Bids, the Financial Bids of successful bidders shall be opened on same day or any other date in discretion of ICAI as notified even if bidders are not present. In the event, the specified date of bid opening is declared holiday for ICAI, the bid shall be opened on the next working day at the specified time and location.</p>

9.	<b>Validity</b>	Tender shall be valid for 90 Days for acceptance from the date of opening of the Tender document.
10.	<b>TDS (Income Tax)</b>	As Applicable
11.	<b>GST</b>	Included
12.	<b>Mobilization Advance</b>	No mobilization advance will be paid.
13.	<b>Earnest Money Deposit</b>	Earnest Money Deposit of <b>Rs. 100000.00/-</b> (Rupees One Lakh only) shall be paid along with the sealed tender by way of DD only issued by a scheduled Bank in favor of ' <b>Secretary, The Institute of Chartered Accountants of India</b> ' Payable at New Delhi.
14.	<b>Retention money</b>	Retention money shall be retained by deducting from each running bill @10% of the gross amount of the Bill.
15.	<b>Refund of Retention Money</b>	50% of this Retention Money shall be paid back by ICAI within 30 days of issuing of certificate of completion by the Architect and balance of the Retention money shall be released along with final bill.
16.	<b>Defect Liability Period</b>	Defect Liability Period shall be 1 year from the date of satisfactory completion and handing over of the job by the Contractor.
17.	<b>Amount in words</b>	Bidder shall write amount in numbers and in words. In case of any discrepancy, amount in words shall be considered as final and binding on both parties.
18.	<b>Out of pocket expenses</b>	All out of pocket expenses shall be borne by the Contractor only.
19.	<b>Overwriting</b>	Over writing must be avoided. In case of overwriting, the same shall be signed by the Contractor at each place.
20.	<b>Stamp &amp; Sign</b>	The Contractor shall Stamp & sign the Tender in places indicated.
21.	<b>Period of Honoring of Interim Bill</b>	Within 21 ( twenty one) days from the date of submission of bill, if found in order.
22.	<b>Period of Honoring of Final Bill</b>	Contractor to submit the final bill within 30 days of issue of virtual completion certificate. PMC / Architect to certify in next 30 days. EMPLOYER to release payment in next 30 days.
23.	<b>Minimum value of work Bills</b>	<b>Rs. 30 lacs (Rupees Thirty lacs)</b>
24.	<b>Hidden/covered item</b>	The contractor shall ensure that all hidden/covered items are measured jointly with Consultant before covering the same. In case the same is not measured the contractor shall uncover the same and redo the work of the same quality at his own cost for the measurements.

### **Note:-**

1. ICAI reserves all rights at any time to reject any tender / bid at any stage and/or time fully or partly the whole process and/or for particular Tenderer and also reserves all rights at any time to add, alter, modify, change, edit & delete any condition at any stage and/or time or vary all or any of these terms and conditions or replace fully or partly for whole process and/or for particular Tenderer or vary all or any of these terms and conditions or replace without assigning any reasons whatsoever. In this regard, the decision of ICAI shall be final and binding on all the participating bidders.

2. ICAI reserves right to reject any or all tenders / bids and the entire Tender process without assigning any reason whatsoever.
3. Canvassing in any form in connection with tender is strictly prohibited and the tender submitted by a Tenderer who resorts to canvassing is liable to be rejected.
4. ICAI or its representatives shall not entertain any Tenderer during the period of the selection of Contractor.
5. ICAI reserves the right to verify the particulars furnished by the applicant / tenderer / bidder, independently.
6. In no case, the request of Tenderer for change or modification in any terms and conditions related to payment shall be entertained.

In case of change/amendment in any of the condition(s) of the Tender, ICAI may issue corrigendum to this tender by notifying the same at [www.icaai.org](http://www.icaai.org), [www.circ-icaai.org](http://www.circ-icaai.org) & [www.icaijodhpur.org](http://www.icaijodhpur.org)

7. ICAI reserves the right to award contract in full or in part to one or more bidder without assigning any reason, whatsoever.
8. ICAI also reserves the right not to accept the lowest tender id.
9. **Only one authorized vendor from one Company (OEM) can participate in the Tender (with Tender, submit letter of company for submitting Tender)**



**SECTION - II**  
**INSTRUCTIONS TO TENDERERS**

## **SECTION - II: INSTRUCTIONS TO TENDERERS**

### **TABLE OF CONTENTS**

<b>Clause No</b>	<b>Description</b>	<b>Page No.</b>
1.	General Instruction	10
2.	Eligibility Criteria	12
3.	Earnest Money	13
4.	Tendering Procedure	14
	4.1 Issue Of Tender Form	14
	4.2 Pre- Bid Meeting	14
	4.3 Manner of Submission of Tender And Its Accompaniments	14
	4.3.1 Envelope No.1 (Technical Bid)	14
	4.3.2 Envelope No.2 ( Price Bid)	15
	4.3.3 Submission of Tenders	15
	4.4 Opening of Tenders	15
	4.4.1 Envelope No.1 (Technical Bid)	15
	4.4.2 Envelope No.2 ( Price Bid)	16
5.	Performance Security Deposit	16
6.	Retention Money	17
7.	Evaluation Criteria	17
8.	Check List to be Submitted by Tenderer along with their Bid	18

## **SECTION –II: GENERAL INSTRUCTIONS TO TENDERERS**

### **1 . GENERAL INSTRUCTIONS**

- 1.1 The Invitation to Bid shall form a part of the Contract.
- 1.2 The Tenderers shall check the number of pages of all the documents and should they find anything missing or unclear, they must notify Employer at once for clarification. No liability for errors in the tender resulting from failure to check the documents will be accepted. Should any clarification, addition, alteration or amendments to the drawings or specification be necessary during the tender period, then it will be a part of the contract in the form of an addendum. Such addendum must be clarified by the CONTRACTOR and those addendum will be a part of the tender document. The Tenderer has to incorporate the entire addendum as and where applicable and the tender not incorporated with the addendum is liable to be rejected.
- 1.3 In the event of Tenderer not submitting the tender for the work, the blank Tender document together with all the enclosures must be returned immediately.
- 1.4 The Tenderers must understand that the quantities marked in bill of quantities for respective items are not the final / actual quantities to be executed. These are only estimated quantities. These quantities are liable to alteration, omission, deletion or addition at the discretion of the Architect/ EMPLOYER without affecting the terms of the contract. Nothing extra will be paid on this account.
- 1.5 Before tendering, in the pre-bid meeting, the Tenderer shall satisfy himself fully regarding the nature of the work and get required clarifications from the EMPLOYER. No plea with respect to want of information or clarification on any particular point shall be entertained after the tender has been received.
- 1.6 Each page of the tender document is required to be signed and dated by the Tenderer's authorized representative.
  - (i) If the tender has to be submitted by a partnership firm it should be signed by all the partners or by the partner who has the necessary authority on behalf of the firm to enter into the contract and the tender document shall be submitted along with such power of attorney.
  - (ii) If the tender has to be signed on behalf of company incorporated under Companies Act, it shall be signed by the Managing Director or one of the Directors duly authorized in this behalf, by resolution of Board of Directors of the Company. A copy of the Memorandum and Articles of Association of the company should also be submitted along with the tender.
- 1.7 The signature and the address of the authorized person signing the tender document must be attested by one witness. The witness must be a person of status and propriety. His name, occupation and address should be stated clearly below their signature.
- 1.8 Along with the submission of tender, the Tenderer shall indicate the name(s) of the authorized representative who would be responsible and authorized to discuss, negotiate and provide clarification and receive instruction from the Architect/ EMPLOYER during and the post tender stage.
- 1.9 All parts of Tender documents including drawings, formats, addendums etc, should be submitted duly signed and stamped.
- 1.10 The Tenderer shall fill in the rates and amount both in figures as well as in words. The amount for each item should be worked out and totaled.
  - (i) The rates, amounts and all other entries in the Tender documents shall be written by hand in ink only.
  - (ii) All corrections should be attested by the Tenderer with his dated initials as many times as the corrections occur.

(iii) Any tender with unattested overwriting or corrections is liable to be rejected.

(iv) Arithmetic errors in filling the rate and amount will be incorporated as follows:

- a. While filling the rates the rate in words will supersede the numerical rate.
- b. Totaling of amount will be corrected clearly on the basis of arithmetical rules.
- c. In case of error in totaling, rate given in words will prevail and tender value will be corrected accordingly.

1.11 Tenderer should not make any alteration in the Tender document including Instructions to Tenderers, the Conditions of Contract, the Drawings, Specifications and Quantities. If at any stage, it is found that alterations (s) are made, the tender shall be liable to be rejected and EMD shall be forfeited.

#### 1.12 Request For Information

No oral request will be entertained; however, information will be given on written requests over following:

- (i) Ambiguity / Clarification in conditions, specifications, drawings, Bill of Quantities, site etc.
- (ii) Regarding items of works which are included in the tender and / or regarding items of works which Tenderer considers shall be included to complete the work in all respect.

1.13 Within Fifteen days of issue of Letter of Intent/ Work Order by the EMPLOYER, the Tenderer shall sign the necessary agreement.

1.14 The date of start of work shall be assumed as Ten (10) days after the date of issue of Letter of Intent/ Work Order, or handing over of the site, whichever is later. Within this period the CONTRACTOR must handover, a Non Judicial Stamp Paper of the specified value to execute the agreement, to the representative of the EMPLOYER.

1.15 The CONTRACTOR is bound by the rates, he quotes for the various items irrespective of quantities mentioned in the tender. No revision in rates will be allowed due to variation, alteration, omissions, modifications of the quantities put to tender.

1.16 If the contractor fails to quote rate for any particular item in the tender, the rate for that particular item will be treated as zero and contractor shall be liable to execute that item at zero rate, for a quantity limited up to the quantity given in the tender.

1.17 If the contractor quotes different rates for same item at different places, then lowest rate will be considered for all the purposes.

1.18 The quoted rates shall be for all heights, lifts, leads and depth except where otherwise specified in the item of work. Quoted rates shall include all materials & provision of all scaffolding, hoists, tools and tackles and all other equipments/materials required for proper execution of the work.

1.19 The rates quoted by the Tenderer shall cover the cost of all loading, transporting to site, unloading, sorting under covers as required, assembling or joining the several parts together as necessary and incorporating or fixing materials in the work including all preparatory work or whatsoever description as may be required and of closing, preparing, loading, returning empty cases of containers to the place of issue

1.20 Rates shall be inclusive of all taxes, including GST, labor cess, labour insurance, royalties or any other new taxes or levies etc. and shall be payable by the CONTRACTOR. The EMPLOYER will not entertain any claim whatsoever in this respect.

1.21 The Tenderer shall inspect the site to acquaint himself with the nature of work, local conditions, facilities of transport conditions, effective labour and materials, access and storage for materials and removal of rubbish etc. The Tenderer shall provide in the tender for the cost of carriage freight and other charges and also for any special difficulties for proper execution of work, before quoting his rates.

- 1.22 The validity of the Tender shall be for a period of **Ninety (90) days** from the date of opening of tenders.
- 1.23 The successful Tenderer shall submit a detailed Completion Schedule / Program in the form of Microsoft Project chart identifying the important milestones/ activities involved and working out the resource planning/scheduling for main items, within Ten days of issue of Letter of Intent/ Work Order, which with modifications if any, by the EMPLOYER, shall form part of the agreement and shall be adhered to for final and satisfactory completion of entire work within the agreed time frame.
- 1.24 The CONTRACTOR shall follow the detailed program for all the items of the work and such program will be part of the contract and shall be binding on the CONTRACTOR. The program may be modified by the EMPLOYER, in consultation with the CONTRACTOR, but subject to the time limits specified in the tender.
- 1.25 Any /part of the works shall not be sub-let to a third party without the prior written approval of the EMPLOYER/ Architect/ PMC.
- 1.26 The Tenderer, if firm or company, shall in its forwarding letter mention the names of all the partners of the firm or the Directors of the company (as the case may be) and the name of the partner/Director who holds the power of attorney authorizing him to conduct transaction on behalf of the firm or company.
- 1.27 In the event of tender opening day happens to be a holiday then the bids shall be opened on next working day at the same time and venue.
- 1.28 No interest shall be payable on Security Deposits or on any delayed payments, at any stage.
- 1.29 The cost/expenses incurred in preparing & submission of this Tender shall be exclusively borne by the Tenderers only.
- 1.30 The Tenderers are advised to note that this is a “Prestigious Project” of the EMPLOYER and has to be executed in accordance with the details given in the Tender Documents.
- 1.31 The details, information, drawings, specification of material etc. being provided with the tender documents are the absolute and exclusive property of the EMPLOYER. The Tenderers are not authorized or permitted to copy or otherwise reproduce the document in any way or convey to any third party, any information contained in the tender documents or drawings. The Tenderer has to maintain strict confidentiality.
- 1.32 The Tenderer is required to keep all the information/ details /drawings /material specification highly confidential and has to maintain secrecy.
- 1.33 Only one authorized vendor from one Company (OEM) can participate in the Tender (with Tender, submit letter of company for submitting Tender)**

## **2. ELIGIBILITY CRITERIA:**

Contractors who fulfil the following conditions shall be eligible to apply. Joint ventures are not accepted.

Experience of having successfully completed works during the last 5 years ending 31st March 2018:

- i) Three similar completed works costing not less than the amount equal to 40% of estimated cost put to tender, or two similar completed works, costing not less than the amount equal to 60% of the estimated cost put to tender or One similar completed work costing not less than the amount equal to 80% of the estimated cost.
- ii) At least one Completed work of similar nature costing not less than the amount equal to 60 % of the estimated cost put to tender with any Central Government Department/State Government Department/Central Autonomous Body/ Central Public Sector undertaking.

- iii) Turnover: Average annual financial turnover per year on construction works should be at least 60% of the estimated cost during the immediate last 3 consecutive financial years.
- iv) Profit/loss: The Tenderer should not have incurred any loss for more than two years during the immediate last five consecutive financial years. The same has to be duly certified by a Chartered Accountant.
- v) Solvency Certificate: Solvency certificate from bankers for an amount which is more than or equal to 40% of the estimated cost of the work.
- vi) The bidding capacity of the CONTRACTOR should be more than or equal to the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula:

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

Where,

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

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

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

- vii) In addition to the above, the following information/documents should also be submitted alongwith the bid by the Tenderers for evaluation/determination of their eligibility:
  1. Copy of Income Tax Returns for three previous years in original or certified true copies,
  2. Copy of Permanent Account Number (PAN) for income tax purpose.
  3. Copy of TDS certificate issued by the clients to substantiate the claim for the value of works executed in the private sector.
  4. Certificate as a registered Contractor with the, MES/CPWD/any other central/state government agency, if any.
  5. Documentary evidence of having independent PF Code number from Regional Provident Fund Commissioner.
  6. GST Registration certificate.
  7. Certificate of incorporation of the firm (Company Act/ Partnership etc.)
  8. Power of attorney in favor of partner submitting the tender, in case of partnership firm
  9. Resolution of Board of Directors of the Company, signed by MD/ Director/ Key Managerial Person/ Officer of the company).
- viii) Even though the Tenderer meets the specified criteria, he may be disqualified if he has:
  - a. Made untrue or false declaration in the forms, statements and attachments submitted in proof of their qualification and / or
  - b. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, poor workmanship or financial failure, etc.
  - c. If the Tenderer is overbooked beyond his capacity to execute the work as per required schedules.

### **3 EARNEST MONEY:**

- a. Earnest money shall be given along with the tender in the form of DD/ Pay Order in favour of Secretary, The Institute of Chartered Accountants of India, New Delhi, to be included in Envelope no. 1 (Technical Bid) only. EMD can also be submitted in the form of Bank Guarantee drawn on any nationalized bank.
- b. Any bid not accompanied by an Earnest Money (Bid Security) shall be rejected by ICAI as non – responsive.

- c. The amount of earnest money will be refunded to the unsuccessful tenderers. In case of the successful Tenderer, it will be refunded on his paying the Performance Security Deposit and executing the Agreement. If successful Tenderer does not pay the Performance Security Deposit in the prescribed time limit and does not execute the Agreement, his earnest money deposit will be forfeited by ICAI.
- d. No interest would be paid by ICAI on Earnest Money Deposit. The EMD may be forfeited if the Tenderer withdraws his bid during the period of bid validity.

#### **4. TENDERING PROCEDURE**

##### **4.1 ISSUE OF TENDER FORMS:**

Blank tender forms can be purchased from the ICAI office, the address of which is as follows:

ICAI Jodhpur Branch  
Guru RoopRajat, E-32, Kalpatru Shopping Centre,  
Jaljog Choraya, Jodhpur, Rajasthan  
Phone no. 0291 2771077

##### **4.2 PRE-BID MEETING:**

Tenderers or their representatives are advised to attend pre bid meeting on 29 November 2018 at 16.00 Hrs at Guru Roop Rajat, E-32, Kalpatru Shopping Centre, Jaljog Choraya, Jodhpur, Rajasthan Phone no. 0291 2771077

The purpose of the meeting is to clarify any issues and to answer questions on any matter that may be raised at this stage. The Tenderers are requested to submit questions/queries in writing or through email to reach ICAI not later than 25 November 2018. Email Id for this communication is, **jodhpur@icai.org**.

1. The reply to the queries/ questions of Tenderers will be given by ICAI during pre-bid meeting and will be compiled and hosted on the website after pre-bid meeting. This clarification referred to as addendum/ corrigendum shall form part of the tender documents which will also be common and applicable to all Tenderers.
2. The tender submitted by Tenderer shall be based on the addendum/corrigendum (if any) by the EMPLOYER and this tender shall be un-conditional. Conditional Tenders will be summarily rejected.

##### **4.3 MANNER OF SUBMISSION OF TENDER AND ITS ATTACHMENTS:**

1. Tenderer shall submit the tender and documents in two sealed envelopes as below, which will be acceptable through registered post/ speed post/ courier/ by- hand.
2. The Tenderer shall sign and put seal of his firm on each page on 'Technical Bid' and 'Price Bid' while submitting the bids.

##### **4.3.1 ENVELOPE NO.1 (TECHNICAL BID):**

The first envelope clearly marked as 'Envelope No -1(Technical Bid)' shall contain the following documents:

1. Earnest Money Deposit (Bid security)
2. Tender fee, if the tender is downloaded from the website
3. Certificate of incorporation of the Company/firm (Company Act/ Partnership etc.)
4. Registration certificate of GST
5. PF Registration Certificate from Regional PF Commissioner
6. Registration certificate of ESI
7. PAN Card
8. Certificate as a registered Contractor with the MES/CPWD/any other central/state government agency, if any.

9. Resolution of Board of Directors of the Company, if bid is signed by MD/ Director/ Key Managerial Person/ Officer of the company).
10. Power of attorney as applicable
11. Form A - Financial Information with supporting document
12. Form B - Form of Bankers Certificate from a Scheduled Bank.
13. Form C - Details of all similar works completed during the last five years in same name and style. Certificate of completion of works from clients to be attached.
14. Form D - Project under execution in the same name and style. Copy of work orders to be attached.
15. Form E - Performance Report of work referred to in Forms C and D
16. Form F - Structure & Organization
17. Form G - Details of Technical & Administrative Personnel to be employed for the work.
18. Form H - Details of construction plant and equipment likely to be used in carrying out the work
19. Form I - Details of Statement of Arbitration & Disputes
20. Income tax return for the last five years
21. Tender Form along with Appendix duly signed and sealed, on the letter head of Tenderer.
22. Original bidding document including drawings, corrigendum/ addendum and all other documents duly signed & sealed

#### **4.3.2 ENVELOPE NO.2 (PRICE BID):**

The second envelope clearly marked as 'Envelope no. 2 (Price Bid)' shall include the following;

- a) Grand Summary (both in words and figures)
- b) Summary with item rates (both in words and figures)

The Tenderer should quote his most competitive item rates and Grand Summary (in words and figures) in attached Bill of Quantities in the tender document. He should not quote this offer anywhere directly or indirectly in Envelope No. 1 (Technical Bid). The Tenderer shall quote for the work as per details given in the main tender and also based on the addendum or corrigendum. This tender shall be unconditional.

#### **4.3.3 SUBMISSION OF TENDERS:**

- 1 The sealed Envelope No. 1 (Technical Bid) and Envelope No. 2 (Price Bid) shall be again put together in one common cover and sealed. This sealed cover shall be marked on left hand top corner as "HVAC work of ICAI Bhawan Building at Jodhpur, Institute of Chartered Accountants of India at Guru RoopRajat, E-32, Kalpatru Shopping Centre, Jaljog Choraya, Jodhpur, Rajasthan.
- 2 The full name and address of the Tenderer/ name of the authorized person delivering the sealed cover containing the tender shall be written on the bottom left hand corner. The sealed envelope marked as above, shall be enclosed in another cover properly addressed and shall be sent by Registered Post Acknowledgement Due/ Speed Post or by Courier or by hand delivery. The date and time of receipt of envelope containing tender shall strictly apply in all cases. The Tenderers should ensure that their tender is received by ICAI, before the expiry of date and time. No delays on account of any cause will be entertained for the late receipt of tender. Tenders received later than the specified deadline for submission of the bids as prescribed in relevant clauses shall be returned to the Tenderer unopened. The bids shall not be accepted through Fax or Email.

#### **4.4 OPENING OF TENDERS:**

Issue of tender document will not automatically mean that the Tenderers are considered qualified. The tender committee shall evaluate the qualifying requirements of each Tenderer as per Invitation to Bid. Bids not meeting the qualified requirement shall be treated as non-responsive and Price Bid would be returned to the concerned Tenderer without opening.

On the date specified in the tender notice, following procedure will be adopted for opening of the tender.

##### **4.4.1 ENVELOPE NO.1 (TECHNICAL BID):**

1. First of all, Envelope No. 1 i.e. Technical Bid will be opened in presence of Tenderer/its



representative who like to attend at the time and venue of opening to verify its contents as per tender requirements. If the documents contained in this envelope do not meet the requirements of the ICAI, a note will be recorded accordingly by the tender opening authority and the said Tenderer's Envelope No. 2 (Price Bid) will not be considered for further action.

2. The date of opening of Envelope No.2 (Price Bid) shall be decided and communicated well in advance to all the Tenderers whose credentials meet qualifying requirement as per Invitation to Bid and are acceptable to ICAI.

#### **4.4.2 ENVELOPE NO. 2 (PRICE BID):**

1. Price bids of only those Tenderers, whose technical capability is found acceptable/satisfactory and suitable for this work based on the details submitted in Envelope No. 1, will be opened.
2. To assist in the examination, evaluation and comparison of bids, ICAI may ask the Tenderers individually for clarifications on their bids including break down of unit rates. The request for the clarification and response shall be in writing or by fax or by email, but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by ICAI during evaluation of bids.
3. The bids determined to be substantially responsive will be checked by ICAI for any arithmetic errors in computation. Errors will be corrected as follows;
  - i) Where there is discrepancy between the unit rates and amounts in figures and in words, the rate and amount in words shall prevail and;
  - ii) Where there is discrepancy between the unit rate and total amount derived from multiplication of the unit rate and the quantity, the unit rate as quoted shall govern.
4. The successful Tenderer will be required to produce to the satisfaction of the specified concerned authority, a valid and concurrent license issued in his favor under provision of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules 1971, before starting the work. On failure to do so, the acceptance of the tender is liable to be withdrawn and earnest money forfeited.
5. The Tenderer whose tender is accepted will have to give an undertaking to the effect that he/they will pay the labours engaged on the work, the wages as per Minimum Wages Act, 1948 and any latest modification thereof, applied to the zone in which the work lies and act accordingly.
6. The Contractor shall comply with the provision of the payment of Wages Act, 1936, Minimum Wages Act 1948, Employers Liability Act 1938, Employees' Compensation Act, 1923, the Contract Labour (Regulation and Abolition) Act, 1970, and any latest modification thereof or any law relating thereto, and rules made thereunder from time to time.
7. The successful Tenderer will have to sign the Agreement on Rs.100 Non- judicial stamp paper within 10 days of the issue of Letter of Intent. The Tenderer will have to sign the original copy of tender papers and the drawings according to which the work is to be carried out. The Contractor shall also have to give a declaration to the effect that he has fully studied the plans, specifications, local conditions and availability of labour and materials and that he has quoted his rates with the consideration to all these factors and that he will not make any subsequent claims on these accounts.

#### **5. PERFORMANCE SECURITY DEPOSIT**

1. Within 10 days of the receipt of the communication of the award of the contract from ICAI, the successful Tenderer shall have to furnish Performance Security Deposit (5 % of the contract amount, to be submitted before signing agreement) in favor of Secretary, ICAI, payable at Delhi in the form of a bank guarantee issued by a nationalized bank in the format provided by ICAI, and complete the Contract documents, failing to do so, his earnest money will be forfeited. The bank guarantee shall be valid for the entire period of the contract including defect liability period plus ninety days. The validity of the bank guarantee should be suitably extended in the event of extension of time of the contract.

- 2 All compensations or other sums payable by the Contractor under the terms of this Contract or any other Contract or any account may be deducted from his Performance Security Deposit, Retention Money or from any sums which may be due to him or may become due to him by ICAI on any account and in the event of the security being reduced by reason of any such above noted deductions, the Contractor shall within 10 days of receipt of notice of demand from the Architect/Employer make good the deficit.
- 3 No interest shall be paid on the Security Deposit.
- 4 The compensation for any loss resulting from the contractor's failure to complete his obligation under this contract shall be payable to ICAI out of Security Deposit..
- 5 This Performance Security Deposit shall be refunded after the completion of defect liability period prescribed for this Contract in accordance with the provisions in the Contract.
- 6 Running Account bills will be paid after verification by the Architect, in 21(twenty one) days from the date of submission of bill.

## 6. RETENTION MONEY:

Ten percent (10 %) of Contract Value will be deducted from each RA bill towards Retention Money. Alternatively, Contractor can submit Bank Guarantee for equivalent amount before payment of RA bill. 50% of this Retention Money shall be paid back by ICAI within 30 days of issuing of certificate of completion by the Architect and balance of the Retention money shall be released along with final bill. No interest will be paid on this amount.

## 7. EVALUATION CRITERIA:

The Tender Documents submitted by the Tenderers will be evaluated in the following manner:

The initial criteria prescribed in clause 2 i) to vi) will first be scrutinized and the Tenderer's eligibility for the work to be determined. The Tenderers qualifying the initial criteria will be further evaluated for following criteria by scoring method on the basis of details furnished by them.

a) Financial strength (Form 'A' & 'B')	Maximum 20 marks
b) Experience in similar nature of work during last five years (Form 'C')	Maximum 20 marks
c) Performance Report of works (Form 'D') – Time overrun	Maximum 20 marks
d) Performance on works (Form 'E') – Quality	Maximum 15 marks
e) Personnel and Establishment (Form "F"&"G")	Maximum 10 marks
f) Plant & Equipment (Form "H")	Maximum 15 marks
<b>Total</b>	<b>100 marks</b>

To be eligible for short listing, the Tenderer must secure at least fifty percent marks in each and seventy percent marks in aggregate.

## CRITERIA FOR EVALUATION OF THE PERFORMANCE OF CONTRACTORS

	Attributes	Evaluation
(a)	Financial strength (25marks)	(i) 60% marks for minimum eligibility criteria
	(i) Average annual turnover 20marks	(ii) 100% marks for twice the minimum eligibility criteria or more
	(ii) Solvency Certificate 5marks	In between (i) & (ii) – on pro-rata basis

(b)	Experience in similar Class of works (20marks)	(i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria or more In between (i) & (ii) – on pro-rata basis	
(c)	Performance on works (time over run) (20marks)		
	Parameter	Calculation For points	Score
			Maximum Marks
			20
		If TOR=	1.00 2.00 3.00 >3.50
	(i) Without levy of compensation		20 15 10 10
	(ii) With levy of compensation		20 5 0 -5
	(iii) Levy of compensation not decided		20 10 0 0
TOR=AT/ST, where AT=Actual Time; ST=Stipulated Time. <b>Note:</b> Marks for value in between the stages indicated above is to be determined by straight line variation basis.			
(d)	Performance of works(Quality) (15marks)		
	(i) Very Good		15
	(ii) Good		10
	(iii) Fair		5
	(iv) Poor		0
(e)	Personnel and Establishment (Max.20marks)		
	(i) Graduate Engineer		10 marks for each
	(ii) Diploma holder Engineer		6 marks for each upto Max.4marks
	(iii) Supervisory/Foreman		4 mark for each upto Max.3marks

## 8. CHECK LIST TO BE SUBMITTED BY TENDERER ALONG WITH THEIR BID

Sr. No.	Item	Submitted Yes/ No	
01	Earnest Money Deposit submitted (Bid security)		
02	Tender fee submitted ,if the tender is downloaded from the website		
03	Certificate of incorporation of the firm (Company act/ Partnership etc.)		
04	Registration certificate of GST		
05	PF Registration Certificate		
06	Registration certificate of ESI		
07	PAN Card		

08	Registration certificate of WCT		
9	Profit & Loss statement, Balance sheet for last three financial years including audit report.		
10	Income tax returns for the last five years		
11	Power of attorney as applicable		
12	Resolution of Board of Directors of the Company, if bid is signed by MD/ Director/ Key Managerial Person/ Officer of the company).		
13	Certificate of completion of works from clients for works completed in same name and style.		
14	Copy of work order for work i n h a n d , in same name and style.		
15	Tender Form along with Appendix duly signed and sealed, on the letter head of tenderer.		
16	Solvency certificate for current year		
17	Certificate as a registered Contractor with the MES/CPWD/any other central/state government agency, if any.		
18	Original bidding document including drawings and all other documents duly signed& sealed		
19	Evaluation Formats 'A' to 'T' duly filled, signed and sealed.		

**SECTION - III**  
**GENERAL CONDITIONS OF CONTRACT**

# SECTION III - GENERAL CONDITIONS OF CONTRACT

## TABLE OF CONTENTS

Clause No.	Description	Page
1.	INTERPRETATIONS	<b>24 - 40</b>
1.1	Law Governing the Contract	24
1.2	Scope of Contract work	25
1.3	Discrepancies and Adjustment of Errors	25
1.4	Letter of Intent/ Work Order	25
1.5	Date of Commencement and Completion	25
1.6	MS Project Schedule for Execution of Work	26
1.7	Mobilization Advance	26
1.8	Performance Security	26
1.9	Additional Performance Security	26
1.10	Apportionment and Sub-Letting	27
1.11	Specialized Works	27
1.12	Emergency Work	27
1.13	Mandatory Requirement	27
1.14	Admission to Site	28
1.15	Temporary Workshops/Stores/Site Office etc.	29
1.16	Nuisance	29
1.17	Working Hours	29
1.18	Labour	29
1.19	Right of Inspection	30
1.20	Materials to be arranged by the Contractor	30
1.21	Testing Materials	31
1.22	Rejection of Materials	31
1.23	Care and Custody	31
1.24	Surplus Materials	31
1.25	Extra House of Working	31
1.26	Contractors all Risk Insurance Cover	31
1.27	Giving of Notices and Payment of Fees	32
1.28	Patent Rights and Royalties	32
1.29	Plant Equipment and Transport	32
1.30	Electricity and Water Supply	32
1.31	Contractor's Supervision	33
1.32	Dismissal of Contractors Employees	33
1.33	Setting Out of Works	33
1.34	Approval by Stages	34
1.35	Covering of Work	34
1.36	Architect's Instructions	34
1.37	Variations	34
1.38	Rates for Altered/ Substituted/ Additional Works	34
1.39	Defective Work	35
1.40	Order Under The Contract	35
1.41	Measurements	35
1.42	Delay and Extension	35
1.43	Certificate of Completion	36
1.44	As Built Drawings	36
1.45	Defects Liability Period	36
1.46	Liquidated Damages	37
1.47	Escalation	37
1.48	Secured Advance	37
1.49	Retention Money	37
1.50	Running Account Payments	37
1.51	Final Bill	37

1.52	Recovery from Contractor	38
1.53	Determination	38
1.54	Foreclosing Of Work	39
1.55	Settlement of Dispute	39
1.56	Arbitration	40
1.57	Site Order Book	40
1.58	Action Where No Specifications Are Specified	40
1.59	Requirement of Minimum Technical Staff to be Deployed	40
2	LOGISTIC PLAN FOR HEALTH	<b>42-43</b>
2.1	Labour and Employment Laws	42
2.2	Health and Sanitary Arrangements for Workers Employed by the Contractor	43
2.3	First Aid	43
2.4	Drinking Water	43
3	SAFETY PROCEDURES	<b>44-46</b>
3.1	Site Safety Policy	44
I.	Safety Plan:	44
II.	Responsibility	45
III.	Accident / Incident Reports	46
IV.	Public Relation	46
4	SITE SAFETY MANUAL	<b>46-53</b>
4.1	General Safety Practices	46
4.2	Personal Protective Equipment	47
4.3	Ladders	48
4.4	Scaffolding	48
4.5	Machinery and Vehicles	49
4.6	Material Handling of Overhead Operating Equipment	50
4.7	Excavation and Shoring	50
4.8	Electrical	51
4.9	Welding And Burning	51
4.10	Work In confined Spaces	52
4.11	Work Permit System	53
4.12	Environmental Considerations	53
4.13	Training	53
5	ACCIDENT REPORT	54
6	INCIDENT REPORT	55

## **1. INTERPRETATIONS**

1. In construing these conditions and Interpretations, Specifications, 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  | Shall mean “The Institute of Chartered Accountants of India, New Delhi” and shall include their representative/s assignees or successor/s.  |
| b) TENDERER/<br>BIDDER   | Tenderer shall be the firm/ company/ individual who submit the bid against the Invitation to Bid.   |
| c) CONTRACTOR  | Means the individual or firm or Company, whether incorporated or not, under taking the works and shall include legal representatives of such individual or firm or company, or the successors of such individual or firm or company and the permitted assignor of such individual or firm or Company.   |
| d) SUB-<br>CONTRACTOR  | Sub-contractor shall mean the person/ firm/ company named by the contractor whom a part of contract has been sub-let with the consent of employer/ Architect and shall include his heirs/ successors/ legal representatives/ assignees.   |
| e) SITE  | Shall mean the site of the contract works including any building and erections thereon and any other land (inclusive) as aforesaid allotted by the EMPLOYER for the Contractor’s use.   |
| f) PROJECT<br>MANAGEMENT<br>CONSULTANT<br>(PMC)/ ENGINEER<br>IN CHARGE | Shall mean ARCHITECT/officer of the EMPLOYER or his representative.   |
| g) THIS CONTRACT   | Shall mean the tender, its acceptance, the Articles of Agreement, the Appendix, the Schedule of Quantities, Specifications, addendum, corrigendum and the drawings pertaining to the work.  |
| h) NOTICE IN<br>WRITING  | Notice in Writing or written notice shall mean a notice in writing, typed or printed (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 in the ordinary course of post. |
| i) CONTRACT PRICE/<br>RATE   | Contract price/ rate shall mean the prices/rates of the accepted bid.   |
| j) ACT OF<br>INSOLVENCY  | Shall mean any Act of insolvency as defined by the Presidency Towns Insolvency Act or any applicable Act.   |
| k) ARCHITECTS  | <b>Ar. Sudhir Shah</b><br>301-302, Race Course Tower,<br>Race Course Circle,<br>Vadodara – 390007   |
| l) HVAC<br>CONSULTANTS   | M/S Apex Consultants & Engineer<br>Vadodara   |



m) IS	Shall mean Indian Standard as issued by the Indian Standard Institution. Wherever reference is made to "IS" it shall mean the relevant "IS" code on the subject with latest edition as amended till date of submission of tender.
n) PROPERTY, EMPLOYER OWNERSHIP & POSSESSION"	The assets being created under this contract as stipulated in the schedule will be the 'Property' belonging to the EMPLOYER. The ownership of the site and property will vest with the EMPLOYER throughout the performance of this contract from the beginning up to its completion or determination or termination or cancellation and beyond.
o) MONTH	Month shall mean from the beginning of the given date of a calendar month to the end of the preceding date of the next calendar month.
p) WEEK	Week shall mean seven consecutive days including holidays in between.
q) AWARD	Award shall mean the written acceptance of the bid by the Employer
r) DAY	Day means a day of twenty four hours from midnight to midnight irrespective of no. of hours worked in that day.
s) WORKING DAY	Working Day means any day other than that prescribed by the Negotiable Instruments Act as being a holiday and consists of the number of hours for labour as commonly recognized by good EMPLOYER in the trade and in the district where the work is carried out.
t) CONSTRUCTION PLANT	Constructional Plant shall mean all appliances or things of whatsoever nature required in or about the execution and maintenance of the Works but does not include the materials or other things required /intended to form or forming part of the Works.
u) PERFORMANCE SECURITY	Performance Security shall mean the amount pledged with the ICAI/ Employer while signing the agreement for faithful and satisfactory performance of the contract.
v) WORK OR WORKS	Work or Works mean the works by virtue of the contract contracted to be executed, whether temporary or permanent, and whether original, altered, substituted or additional.

### 1.1 LAWS GOVERNING THE CONTRACT:-

1. This contract shall be governed by the Indian Laws for the time being in force. The contract is confidential and must be strictly confined to the purposes of the contract. The original and duplicate copies of the contract shall be signed by the EMPLOYER and the Contractor or their authorized representative. The original shall be kept in the safe custody of the EMPLOYER and the duplicate copy shall be handed over to the Contractor. One certified true copy of the Contract shall remain in the custody of the Architect.
2. The Contractor, on signing of the contract, shall be furnished a copy thereof by the EMPLOYER, free of cost, with one certified true copy of the Contract and two copies of all drawings issued during the progress of the work. Any further copies of such drawings required by the CONTRACTOR shall be paid for by him. The CONTRACTOR shall keep one certified copy of the contract and all drawings on the work site and the EMPLOYER/Architect or his representative shall at all reasonable time have access to the same.

## **1.2 SCOPE OF WORK:-**

1. The CONTRACTOR shall carry out and complete the said work in every respect in accordance with this contract as per CPWD Specifications / applicable IS codes and with the directions and to the satisfaction of the EMPLOYER and Architect.
2. The contract shall include all labour, materials, tools plant equipment and transport which may be required for, the full and entire execution and completion of the works and shall unless otherwise stated, include wastage and materials, carriage and cartage, carrying of empties, hoisting, setting, fitting and fixing in position, testing and commissioning of aforesaid work in accordance with good Engineering practice and recognized principles.
3. The CONTRACTOR shall provide everything necessary for the proper execution of the works according to the intent and meaning of the specifications and drawings taken together whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from and if the Contractor finds any discrepancy in the specifications and drawings or between the drawings, he shall immediately and in writing refer the same to the Architect and EMPLOYER who shall decide which is to be followed, subject to provisions in the contract.
4. The CONTRACTOR shall be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the entire execution and completion of the works. No extra charges consequent on misunderstanding or otherwise will be allowed.

## **1.3 DISCREPANCIES AND ADJUSTMENT OF ERRORS:-**

1. The several documents forming the contract are to be taken as mutually explanatory of one another. In case of discrepancy EMPLOYER shall be sole deciding authority with regard to intention and interpretation of the document and his decision in this respect shall be final and binding.
2. Any error in description, quantity or rate in Bill of Quantities or any omission there from shall not vitiate the contract or release the CONTRACTOR from the execution of the whole or any part of the works comprised therein according to the drawings and specifications or from any of his obligations under the contract. Any error in quantity rate or amount in Bill of Quantity shall be adjusted in accordance with the following rules:-
  - (i) In the event of a discrepancy between description in words and figures quoted by a Tenderer the description in words shall prevail.
  - (ii) In the event of an error occurring in the amount column of Bill of Quantity as a result of wrong extension of unit rate and quantity, the unit rate quoted by Tenderers shall be regarded as firm and the extension shall be amended on the basis of the rate.
  - (iii) All errors in totaling in the amount column and in carrying forward totals shall be corrected.
  - (iv) All rates shall be quoted on the tender form provided in the Bill of Quantities. In case CONTRACTOR misses to quote rate for any item, the rate for that particular item shall be treated as 'Zero' and CONTRACTOR would be bound to execute that item without any payment limited to quantity mentioned in the BOQ at the time of tendering.

## **1.4 LETTER OF INTENT/ WORK ORDER:-**

The Letter of Intent/ Work Order will be issued by the EMPLOYER to the successful TENDERER. Handing over of site and Date of Commencement of the work shall be **Ten** days from the date of issue of this letter.

## **1.5 DATE OF COMMENCEMENT AND COMPLETION:-**

The Contractor shall be allowed admittance to the site on 'Date of Commencement' which will be Ten days from the issue of Letter of Intent/ Work Order by EMPLOYER and shall thereupon begin the works and shall regularly proceed so as to complete the same on or before the 'Date of Completion' subject, nevertheless, to the provision for extension of time contained hereinafter. Date of Completion is the date or dates for completion of the whole or any part of the works set out in or ascertained in accordance with the individual work order or the tender documents or any subsequent amendment thereto as provided in the conditions.

## **1.6 MS PROJECT SCHEDULE FOR EXECUTION OF WORK**

1. Contractor shall submit within one week of the acceptance of the tender a MS Project Chart to EMPLOYER along with a weekly work schedule, which shall indicate the planning for the execution of the entire work under the contract within the stipulated time given for completion. This shall be scrutinized by the EMPLOYER. The mutually agreed M S Project schedule shall be binding on the CONTRACTOR for progress of the work for by the due date.
2. The Contractor shall during the entire tenure of site work, provide accurate fortnightly reviews of M S Project chart work targets & completed works for discussions with the EMPLOYER.
3. Contractor's shall maintain a register of daily deployment of labour, mason etc. on various activities and get it signed from Engineer-in-Charge on daily basis and shall produce before the EMPLOYER as and when asked for.

## **1.7 MOBILISATION ADVANCE**

- a) ICAI, if requested for, will make an advance loan to the Contractor for the costs of mobilization in respect of the works in a lump sum amount equivalent to 10% of the Contract price. The Payment of the mobilization advance loan will be due under separate certification by the PMC/ Architect after;
  - i) Execution of the Agreement by the parties thereto,
  - ii) Provision by the Contractor of the Performance Security
  - iii) Provision by the Contractor of a bank guarantee equivalent to 110% of advance amount, valid till the Completion Period of contract, issued by a Nationalized Indian Bank. The acceptable form of Bank guarantee shall be strictly as per format given in the tender document. The bank guarantee shall remain effective until the advance loan has been completely repaid by the Contractor out of current earnings under the Contract and certified accordingly by the PMC/ Architect.
- b) Unless otherwise agreed, the advance loan shall be repaid with proportionate percentage deductions from the interim payments certified by the PMC/ Architect under the Contract. Recovery shall be made for the mobilization advance paid starting from the first interim R A Bill @ 10 % of the gross value of work done for the contract, until such time as the loan has been fully repaid.

## **1.8 PERFORMANCE SECURITY**

Within 10 days of the Letter of Intent/ Work Order, the successful Tenderer shall furnish a Performance Security for an amount of 5 % (five percent) of the Contract Value (to be submitted before signing agreement) in favour of Secretary, ICAI, payable at Delhi in the form of Bank Guarantee, the validity of which will be up to Defect Liability Period plus 90 Days. Failure of the successful Tenderer to comply with this requirement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.

In the event of increase in the contract cost, in actual execution, proportionate additional performance security shall be provided by the contractor or recovered from the subsequent payment due to the contractor. The validity of bank guarantee shall be suitably extended in the event of extension of time of the contract.

## **1.9 ADDITIONAL PERFORMANCE SECURITY:**

If the bid of the successful Tenderer is having ALR ( Abnormally Low Rates i.e. the rates less than 60% of estimated rates) for prices of individual items or total bid price offered in relation to the EMPLOYER's item rates estimate or total price estimate of the real cost of the work to be performed under the Contract, the amount of the performance security deposit should be increased at the expense of the successful Tenderer to a level sufficient to protect the EMPLOYER against financial loss in the event of subsequent performance of the successful Tenderer under the Contract. This additional security provided separately shall be termed as Additional Performance Security and shall be released on completion of all ALR (Abnormally Low Rates) items against which the additional performance security is obtained. The value of the Additional Performance Security shall be worked out on the basis of differential rates.

i.e. Additional Performance Security Amount = Quantity X (60% of estimated rate -ALR rate).

## **1.10 APPORTIONMENT AND SUB-LETTING:-**

The whole of the works included in the contract shall be executed by the main CONTRACTOR and as per **LIST OF SPECIALISED AGENCIES**. They shall not directly or indirectly transfer, assign or further sublet the contract or any part thereof or interest therein without the written consent of the EMPLOYER. But no such undertaking shall relieve the CONTRACTOR from the full and entire responsibility of the CONTRACTOR or from active superintendence of the works during their progress.

## **1.11 SPECIALIZED WORKS:-**

Specialized works are works for which there are specialized agencies available in the market to execute them. These works should be got executed through such agencies only to ensure a proper quality of work. In the case of some specialized jobs by specialized firms being executed in the project, a Guarantee Bond is required to be executed, viz. installation and equipment performance guarantee .

## **1.12 EMERGENCY WORK:-**

Emergency works means, any urgent measures which, in the opinion of the EMPLOYER, become necessary during the progress of the works to obviate any risk of accident or failure or which become necessary for security, or rectification to essential services during the defects liability period. If any Emergency works become necessary and the CONTRACTOR is unable or unwilling at once to carry them out ,the Architect shall advise and assist the EMPLOYER in getting these works carried out by any other agency at the Risk and cost of Contractor. All expenses incurred on these works shall be recoverable from the CONTRACTOR, and if necessary be set off against any sum payable to him under this contract

If the EMPLOYER feels that the sub-contractors appointed by the CONTRACTOR is not competent enough to carry out the work of that package awarded to him, the EMPLOYER reserves the right to entrust that particular work to another CONTRACTOR selected by the EMPLOYER. However, the new subcontractor will work under the supervision of the main CONTRACTOR only.

The payments for the work done by the sub-contractor selected by the EMPLOYER will be made directly to the sub-contractor by the EMPLOYER.

## **1.13 MANDATORY REQUIREMENT:-**

1. The CONTRACTOR shall conform to the provisions of Acts of the Legislature relating to the works, and to the regulations and bye-laws of any authority, and of any water, lighting and other companies and/or authorities with whose system the structure is proposed to be connected and shall, before making any variation from the drawings or specifications that may be necessitated by so conforming, give to the Architect and EMPLOYER written notice, specifying the variation proposed to be made and the reason for making it, and apply for instructions thereon. In case the CONTRACTOR shall not within 2 weeks receive such instructions, he shall proceed with the work in question, and any variations so necessitated shall be dealt with under clause 1.39.

2. The CONTRACTOR shall indemnify the EMPLOYER or any agent, servant or employee of the EMPLOYER against any action, claim or proceeding relating to the infringement of any copy or design rights or any alleged patent or design rights and shall defend all actions arising from such claims and pay any royalties, license fees, damages, cost of all and every sort of other charges which may be payable in respect of any articles or material or part thereof legally incurred in respect thereof and included in the contract. In the event of any claim being made or action being brought against the EMPLOYER or any agent, servant or employee of the EMPLOYER in respect of any such matters aforesaid, the CONTRACTOR shall be immediately notified thereof.
3. The CONTRACTOR shall indemnify the EMPLOYER against all claims which may be made upon the EMPLOYER under the Workmen's Compensation Act or any other statutory provisions applicable to the work.
4. The CONTRACTOR shall also be responsible for all bodily injury to persons, animals, or things which may arise from the operation or neglect of himself or of any nominated subcontractors employees whether such injury or damage arises from carelessness, accident or any other cause whatsoever in any way connected with carrying out of this contract. The CONTRACTOR shall indemnify the EMPLOYER and save him harmless in respect of all and any expense arising from and such injury or damage to persons, animals or things as aforesaid and also in respect of any claims made in respect of injury or damage under any Acts of Government or otherwise and also in respect of any Award of Compensation or damage consequent upon such claims.
5. The CONTRACTOR shall be responsible for all structural and other damage to any property which may arise from the operation or neglect of himself or of any subcontractors employees or arising out of neglect, carelessness, defect or any other cause whatsoever in any way connected with the carrying out of this contract. This clause shall be deemed to include interalia, any damage to buildings, whatever immediately adjacent or otherwise, and any damage to roads, streets, footpaths, bridges or ways as well as all damage caused to the building and works forming the subject of this contract by inclemency of weather. The CONTRACTOR shall indemnify the EMPLOYER against all claims which may be made against the EMPLOYER by any member of the public or other third party in respect of anything which may arise in respect of the works or in consequence of and in respect of any cost, charge/expense arising out of any claim or proceedings and also in respect of any Award of compensation or damage arising there from and shall reinstate all damage or every sort mentioned in this clause so as to make good or otherwise satisfy all claims arising from damage to the property of third parties.
6. The EMPLOYER with the advice of the Architect shall be at liberty and is empowered to deduct the amount of any damage, compensation, costs, charges and expenses arising or accruing from or in respect of any such above said claims for damages from any sum or sums due or become due to the CONTRACTOR, for which the EMPLOYER will be the sole deciding authority.
7. The CONTRACTOR shall be responsible for safety of all workmen and necessary statutory requirements related to ESI, workmen's compensation etc. should be met. The proof of (Insurance Policy) should be handed over to the EMPLOYER.

#### **1.14 ADMISSION TO SITE:**

1. The EMPLOYER & the Architect and their representatives shall at all reasonable times have free access to the works and/or the workshop, factories, or other places where materials are lying or from which they are being obtained and the CONTRACTOR shall give all necessary facilities to the EMPLOYER/Architect and/or his representative for inspection and examination and test of the materials and workmanship. No person unless authorized by the EMPLOYER/Architect except the representative of Public Authorities shall be allowed on the works at any time.
2. The officials of the EMPLOYER connected with the contract shall have the right of entry to the site at all times.
3. The portion of the site to be occupied by the CONTRACTOR, erection of temporary workshop, stores, site office etc. will be clearly defined and or marked on the site plan, and the CONTRACTOR will on no account be allowed to extend his operations beyond these areas. No labour hutments to be provided on site and the Contractor to make own arrangements for the same elsewhere.

4. The CONTRACTOR shall provide if necessary, or if required on the site all facilities for temporary access thereto and shall alter, adopt and maintain the same as required from time to time and shall take up and clear away as and when no longer required and make all good.
5. The EMPLOYER reserves the right to use the premises or any portion of the site for execution of any work not included in this contract which he may desire to have carried out by other persons, and the CONTRACTOR shall allow all reasonable facilities for the execution of such work but shall not be required to provide any plant, material or labour for the execution of such work except by special arrangement with the EMPLOYER. Such work shall be carried out in such manner as not to impede the progress of the works included in the contract and the CONTRACTOR shall not be responsible for any damage or delay which may happen to or be occasioned by such work.
6. The EMPLOYER reserves the right of taking over any portion of the site, which may be required and the Contractor shall at his own expense clear such portion forthwith.
7. Site is handed over to CONTRACTOR only for execution of work, not for any other job and the possession of CONTRACTOR is terminated at the completion of work or incase of foreclosure.

#### **1.15 TEMPORARY WORKSHOPS/STORES/SITE OFFICE ETC.:-**

1. The CONTRACTOR shall during the progress of the works, provide, erect and maintain at his own expense temporary workshops and stores as required for proper and efficient execution of the works.
2. On completion of works and if necessary, on completion of the defects liability period as decided by the EMPLOYER, the whole of such temporary buildings/structures shall be cleared away and the site reinstated and left clean to the entire satisfaction of the EMPLOYER at the Contractor's expense.
3. Additionally, the EMPLOYER may at his discretion permit the CONTRACTOR to locate his workshop and stores, in such buildings as may be available at site for that purpose at a rate to be mutually decided upon by the EMPLOYER and the Contractor, and in the event of the Contractor occupying such accommodation, the CONTRACTOR undertake to maintain such premises at his own expense in a clean and sanitary condition and to deliver the same on the completion of the works or on the termination of the contract, or in the event of the said building being required by the EMPLOYER within 7 days of an order to that effect, handover the same in a clean state complete in every respect.

#### **1.16 NUISANCE:-**

The CONTRACTOR will not at any time do, cause or permit any nuisance on the site or do anything which shall cause unnecessary disturbance or inconvenience to the EMPLOYER, tenants or occupiers of other properties near the site and to the public generally. The CONTRACTOR is completely responsible to ensure the safety and convenience of all concerned and at his own cost.

#### **1.17 WORKING HOURS:-**

The CONTRACTOR shall work normally only on and during the hours of working day. In case any work over and above normal working hours is required, the CONTRACTOR shall obtain prior written permission from EMPLOYER /Architect. Safety for workmen, proper lighting arrangement, housekeeping and safety to client material will be Contractor's responsibility. The EMPLOYER shall incur no liability in respect of any excess cost arising therefrom.

#### **1.18 LABOUR:-**

1. The CONTRACTOR shall employ labour in sufficient number to maintain the required rate of progress and of such quality to ensure workmanship of the degree required by the specifications and to the satisfaction of the EMPLOYER.

2. The CONTRACTOR shall remain liable for the payment and shall pay or cause to be paid all wages or other moneys to his workers or employees and for those employed by his subcontractors (engaged directly or indirectly from time to time on or in connection with the said work under the relevant Acts or enactments relating thereto and the Rules framed there under as if the labour had been directly employed.
3. In respect of all labour directly or indirectly employed on the works for the performance on the Contractor's part, the CONTRACTOR shall comply with or cause to be complied with the current labour regulations in regard to all matters provided therein and with all other labour laws as applicable.
4. The regulations aforesaid shall be deemed to be a part of this contract and any breach thereof deemed to be a breach of this contract.
5. The CONTRACTOR shall take all actions and deposit fees as may be necessary under the Contract Labour (Regulation & Abolition) Act, 1970 and current labour regulations including the actions and depositing of money on behalf of EMPLOYER, if required. The CONTRACTOR shall at all times keep the EMPLOYER indemnified against any actions for breach of the said Act and regulations.
6. The CONTRACTOR shall, during the progress of the works, comply at his own expense with all the current rules and provisions for the protection of health and sanitary arrangements and safety provisions for workers employed and shall at his own expenses provide for all facilities in connection therewith.
7. Contractors shall deposit all provident funds, ESI etc. to the respective authorities and produce the receipt of the same to EMPLOYER regularly, failing which EMPLOYER will deposit the same himself and the same shall be adjusted in RA bills or Retention Money.

#### **1.19 RIGHT OF INSPECTION:-**

The EMPLOYER, the Architect and other consultants including their representatives concerned with the contract shall be entitled, at any time, to inspect and examine any materials intended to be used in or on the works, either on the site or at the Factory or workshop or other place where such materials are assembled, fabricated or manufactured or at any place(s) where these are lying or from which these are being obtained and the CONTRACTOR shall give such facilities as may be required for such inspection and examination, at Contractor's cost .

#### **1.20 MATERIALS TO BE ARRANGED BY THE CONTRACTOR:-**

1. The CONTRACTOR shall at his own cost and expense provide all materials required for the works.
2. All materials to be provided by the CONTRACTOR shall be brand new conforming to latest IS Codes and ISI marked wherever applicable and all materials and workmanship shall be as far as procurable of the respective kinds described in the specifications drawings and/or schedule of quantities and in accordance with the Architect's and/or Employer's instructions and the CONTRACTOR shall, upon the request of the Architect or EMPLOYER, furnish him with all invoices, accounts receipt and other vouchers to prove that the materials comply therewith.
3. The CONTRACTOR shall, at his own cost and expense supply to the EMPLOYER through the Architect samples of materials proposed to be used in the works. The EMPLOYER shall within seven days of supply of samples or within such further period as he may require, inform the CONTRACTOR whether samples are approved by him or not. If samples are not approved, the CONTRACTOR shall forthwith arrange to supply the EMPLOYER for his approval fresh samples through the Architect complying with the specification laid down in the contract.
4. No materials shall be brought by the CONTRACTOR to site unless samples are approved.

### **1.21 TESTING MATERIALS:-**

The EMPLOYER or Architect shall be entitled to have tests carried out as specified in IS codes for any materials supplied by the CONTRACTOR (other than those for which satisfactory proof has been furnished) at the cost of CONTRACTOR and the CONTRACTOR shall provide at his expense all facilities which the EMPLOYER or Architect may require for the purpose. The cost of materials consumed as well as cost of testing from approved laboratory shall be borne by the CONTRACTOR.

### **1.22 REJECTION OF MATERIALS:-**

The Architect/EMPLOYER shall have full powers to reject/removal of any or all the materials brought to site by the Contractor which are not brand new and in accordance with the contract specifications or does not conform in character or quality to sample approved by the EMPLOYER. In case of default on the part of the CONTRACTOR in removing rejected materials, the architect and or EMPLOYER shall be at liberty to have them removed by other means at the Contractor's expense and risk. The Architect with prior approval of EMPLOYER shall have full powers to permit or to approve other materials to be substituted for rejected materials.

### **1.23 CARE AND CUSTODY:-**

1. Materials required for the works, whether brought by the CONTRACTOR or supplied by the EMPLOYER shall be stored by the Contractor only at places approved by the EMPLOYER, storage and safe custody of materials shall be at the risk and the responsibility of the CONTRACTOR. The CONTRACTOR shall be liable for any loss or damage to such materials due to the neglect, theft or fire and shall make the loss good at his cost and expense.
2. Where in any running bill the, CONTRACTOR has claimed payment and the Architect has included the value of any unfixed materials intended for incorporation in works, then these materials shall become the property of the EMPLOYER and they shall not be removed except for use upon the works, without the written authority of the EMPLOYER.

### **1.24 SURPLUS MATERIALS:-**

Whenever the works are finally completed and advance if any in respect of any such materials is fully recovered, the CONTRACTOR shall at his own expense forthwith remove from the site all surplus materials arranged by him after obtaining prior clearance in writing from the EMPLOYER.

### **1.25 EXTRA HOURS OF WORKING:-**

If for any reason, the Contractor has to work on any section or complete work on holidays or after the normal working hour, the Contractor shall seek the consent of Consultant to do so after making the adequate provision for safety requirements and any additional lighting required. The Contractor shall bear such extra hours working payment for his workmen and supervisory staff including the provision for any additional plant, facilities and the like arising out of extra hour working.

### **1.26 CONTRACTOR'S ALL RISK INSURANCE COVER:-**

Notwithstanding anything contrary in this document, the CONTRACTOR shall arrange Contractor's All Risk cover insurance in line with the following:

**Value:** The entire contract value (including the Contract Price plus 10% of the Contract for the period of completion of the Works which includes till the works are handed over to the EMPLOYER to cover the damages due to Civil commotion, riots, war, earth quake, terrorist attack and other disturbances.

- All Tools/Plants and machinery owned by the Contractor for the project to be also covered.
- Damage insurance against loss or damage by fire or any other disaster to the works during construction until its completion



- The CONTRACTOR has to take insurance policy to cover all risks including the above. The risks covered in the Contractor's policy include but not limited to Workmen Compensation, Third Party Insurance, Labor and Materials at site etc.

<b>Beneficiary:</b>	The CONTRACTOR (for the insurance policy taken by him)
<b>Period:</b>	The period covered under insurance shall be completion period as extended time plus 12 months of Defects Liability Period
<b>Third party liability:</b>	The insurance shall cover all third party Liability
<b>Employees cover:</b>	The insurance shall cover all risks to the employees of CONTRACTOR.

The original policy shall be handed over to EMPLOYER within 10 days from the date of Letter of Intent/ Work Order.

Failing of above, EMPLOYER will arrange such insurance policy and recover the proportionate premium amount from the first RA bill.

#### **1.27 GIVING OF NOTICES AND PAYMENT OF FEES:-**

1. The Contractor shall give all notices and pay all fees required to be given or paid under any Statute, Ordinance, or Law, or any regulation, or bye-law of any local or other duly constituted authority in relation to the execution of the Works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works.
2. The Contractor shall conform in all respects with the provisions of any such Statute, Ordinance or Law as aforesaid and the regulations or bye- laws of any local or other duly constituted authority which may be applicable to the Works and with such rules and regulations of public bodies and companies as aforesaid and shall keep the EMPLOYER indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or bye-law.
3. The EMPLOYER will repay or allow to the Contractor all such sums as the Engineer in Charge shall certify to have been properly payable and paid by the Contractor in respect of such fees.

#### **1.28 PATENT RIGHTS AND ROYALTIES:-**

The Contractor shall save harmless and indemnify the EMPLOYER from and against all claims and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of any, machine work, or material and for in connection with the Works or any of them and from and against all claims, proceedings, damages, costs, charges and

expenses whatsoever in respect thereof or in relation thereto. Except where otherwise specified, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials required for the Works or any of them.

#### **1.29 PLANT EQUIPMENT AND TRANSPORT:-**

All tools, plant and equipment brought to the site shall not be removed off the site without the prior written approval of the EMPLOYER. But whenever the works are finally completed or the contract is terminated the CONTRACTOR shall forthwith remove from the site all tools, plants and equipment after clearance in writing from and the EMPLOYER.

#### **1.30 ELECTRICITY AND WATER SUPPLY:-**

1. The EMPLOYER does not warrant electricity and water connections. Temporary water and electricity connections should be arranged by the Contractor at his own cost and shall be responsible for all connections, pumps, pipes, storage capacity, cabling, wiring, conducting and all other works necessary to distribute and use services from distribution points as much as required for his work.

2. The Contractor shall also make arrangement for alternative standby services at his own cost in the form of generators of adequate capacity (Day & Night) so that there is no delay in progress of works as per construction schedule submitted by him and approved by PMC.
3. If EMPLOYER is able to arrange for electricity supply from Authorities, then the same facility will be extended to the CONTRACTOR at one point. Cost of cabling, security deposit, meter, monthly payments of electricity bills etc will be on Contractor's account. Unit consumed as per installed meter will be levied at prevailing electricity charges. In case of meter getting faulty, 1.0 % of RA bill will be levied toward electricity charges.
4. The available bore well in the premises can be used by CONTRACTOR for drawing water. Water charges will be deducted @ 0.5 % of RA bills.

### **1.31 CONTRACTOR'S SUPERVISION:-**

1. The CONTRACTOR shall give all necessary personal superintendence during the execution of the works, and as long thereafter as the Architect and EMPLOYER may consider necessary until the expiration of the Defect Liability Period.
2. Where the CONTRACTOR is not a qualified engineer or even if he is so qualified, he cannot, in the opinion of the Architect and EMPLOYER give his full personal attention to the works, he shall, at his own expense employ any experienced engineering graduate as his accredited agent to supervise the works and to receive instruction from the Architect and EMPLOYER. The employment of engineer as aforesaid shall be to the approval of the Architect and EMPLOYER who may verify his qualification and experience by referring original degree which shall be made available by the CONTRACTOR or the individual employed or proposed to be employed.
3. If the CONTRACTOR fails to appoint a suitable engineer on being required to do so, the architect or the EMPLOYER shall have full powers to suspend the execution of works until such date a suitable engineer is appointed and the CONTRACTOR shall be held responsible for the delay so caused to the works, if the CONTRACTOR fails to employ the qualified engineer, the EMPLOYER shall have the discretion to appoint such engineer and payment made to such engineer shall be recoverable from the CONTRACTOR.
4. Orders/Instructions given to the CONTRACTOR or his agent who will be nominated by the CONTRACTOR before commencement of work shall be considered to have the same force as, if they had been given to the CONTRACTOR himself.
5. The CONTRACTOR or his agent shall be in attendance at the site during all working hours and shall superintend the execution of the works with such additional assistance in each trade as the EMPLOYER may consider necessary.
6. The CONTRACTOR or his accredited agent shall attend, when required and without making any charge for doing so, either at works site or at the office of the Architect or EMPLOYER to receive instructions from the Architect or EMPLOYER.

### **1.32 DISMISSAL OF CONTRACTORS EMPLOYEES:-**

EMPLOYER shall have full power and without giving any reason to direct the CONTRACTOR to immediately cease to employ in connection with this contract any agent, servant or employee whose continued employment in his opinion is undesirable. The CONTRACTOR shall not be allowed any compensation on this account.

### **1.33 SETTING OUT OF WORKS:-**

1. The Architect shall supply dimensioned drawings, levels and other information necessary to enable the CONTRACTOR to set out the works.
2. The CONTRACTOR shall set out the works and shall provide and fix all setting out apparatus required and solely be responsible for the true and perfect setting out the same and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. The

CONTRACTOR shall take in writing the approval of the Engineer-in-Charge for setting out and levels before starting the work. However, the CONTRACTOR will be responsible for correctness of setting out of works.

#### **1.34 APPROVAL BY STAGES:-**

All work embracing more than one process shall be subject to examination and approval at each stage thereof as stipulated by the Architect in consultation of EMPLOYER and the CONTRACTOR shall give reasonable notice in writing to the Architect when each stage is ready. In default of such notice received, the Architect shall be entitled to appraise the quality and extents thereof and in the event of any dispute the decision of the EMPLOYER thereon shall be final and binding. Record of such approval will be maintained at Site.

#### **1.35 COVERING OF WORK:-**

The CONTRACTOR shall give reasonable notice in writing to the Architect whenever any work is to be permanently covered or concealed, whether by earth or other means and in default of so doing, shall, if it is required by the Architect, uncover such work at his own expense and make it good at his own cost.

#### **1.36 ARCHITECT'S INSTRUCTIONS:-**

The CONTRACTOR shall carry out and complete the said work in every respect in accordance with the contract conditions and with the directions of and to the satisfaction of the Architect and EMPLOYER. The Architect may from time to time issue further detailed drawings and or written detailed directions/instructions and explanations within the meaning of contract agreement in regard to:-

1. The variation or modification of the design, quality or quantity of works or the addition or omission or substitution of any work, with the prior approval of the EMPLOYER.
2. The removal and/or re-execution of any works executed by the Contractor.
3. The opening up for inspection of handy work covered up.
4. The amending and making good of any defects.

#### **1.37 VARIATIONS:-**

No alteration, omission or variation shall vitiate this contract. In case the Architect or EMPLOYER thinks proper, at any time during the progress of the works, to make any alterations in or omission from the works or any alteration in the kind or quality of the materials to be issued therein, the Architect, with approval of EMPLOYER, shall give notice thereof in writing well in advance under his hand to the CONTRACTOR and the CONTRACTOR shall carry out such alteration, addition or omissions as the case may require, in accordance with such notice. The value of such extra alteration, addition or omissions shall in all cases be determined by the EMPLOYER in accordance with the provisions of Clause 1.39 hereof and the same shall be added to or deducted from the Contract amount.

#### **1.38 RATES FOR ALTERED/ SUBSTITUTED/ ADDITIONAL WORKS:-**

1. If the rates for altered, substituted or additional work are not specifically provided in the Contract, then such rates will be derived from the rates for a similar class of work as specified in the Contract.
2. If the rates of altered, substituted or additional work cannot be determined in the manner specified above, then the rates of such items of work shall be computed based on the Analysis of Rates as provided in CPWD, Analysis of Rates ( latest edition). Water & Electricity charges even if provided in the analysis will not be allowed since same are deemed to be included in the 15% (Fifteen Percent) to be added towards establishment, overheads, water and electricity, POL charges, contingency and CONTRACTOR profit, tool and tackles etc.
3. If the rates for the altered, substituted or additional work cannot be determined in the manner specified in above Clauses, then the rates for the same shall be decided by the EMPLOYER on

recommendations of Architect on pro-rata basis or the actual cost to the CONTRACTOR at site including labour (for which CONTRACTOR shall produce sufficient proof) plus 15% to towards establishment, overheads, water and electricity, POL charges, contingency and CONTRACTOR profit, tool and tackles etc cover profits & overheads of CONTRACTOR.

#### **1.39 DEFECTIVE WORK:-**

1. The Architect or EMPLOYER shall, during the progress of the works, have power to order in writing from time to time the removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specifications or instructions, and CONTRACTOR shall forthwith carry out such order at his own cost. In case of defaults on the part of the CONTRACTOR to carry out such order, the EMPLOYER shall have the power to employ other persons to carry out the same and all expense consequent thereon or incidental thereto as certified by the Architect shall be borne by the Contractor or may be deducted by the EMPLOYER from any money due or that may become due to the CONTRACTOR against this contract or any other contract with the EMPLOYER.
2. The CONTRACTOR is responsible and shall ensure that there are no leakage or seepage in roofs, ceilings, walls, or floors or in the water supply, electrical or sewage system. Contractor shall do the complete stage of work to the satisfaction of Architect and EMPLOYER.
3. Engineer-in-Charge has full authority, discretion to reduce /part the rates of various items, if the executed item is not up to the satisfaction or yet to be completed. No objection from CONTRACTOR shall be entertained on this ground.

#### **1.40 ORDERS UNDER THE CONTRACT:-**

All directions, notices etc, to be given under the contract shall be in writing, type script or printed and if sent by registered post to the last known place of abode or business of the CONTRACTOR shall be deemed to have been served on date when in the ordinary course of post it would have been delivered to him.

If the CONTRACTOR after receipt of written notice from the EMPLOYER requiring compliance, fails to comply within fifteen days with such further drawings and or Architect instructions, the EMPLOYER may employ and pay other persons to execute any such work whatsoever that may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the CONTRACTOR by the EMPLOYER on certification of the Architect as a debt or may be deducted by him from any money due to/become due to the CONTRACTOR. The measurements shall be taken jointly by the Engineer – In – Charge or any person or persons duly authorized by him and the Contractor's representatives, immediately on completion of the item or work.

#### **1.41 MEASUREMENTS:-**

1. The CONTRACTOR shall measure the work done and enter into the measurement book, sign and submit to the PMC for verification and certification.
2. Mode of measurement for Civil Works will be as per IS 1200.
3. If any alterations or additions (other than those authorized) have been covered up by the Contractor without his having given notice of his intention to do so, the Architect shall be entitled to appraise the value thereof and in the event of any dispute the decision of the EMPLOYER thereon shall be final and binding.
4. The measurement and valuation in respect of the contract shall be completed within one months of the completion of the contract works.

#### **1.42 DELAY AND EXTENSION:-**

If the work is delayed beyond the stipulated time for reasons given below, then the Contractor shall immediately give a written notice thereof to the EMPLOYER, but the CONTRACTOR shall nevertheless consistently use his endeavors to prevent delay and shall do all that may be reasonable

or required to the satisfaction of the EMPLOYER to proceed with the work. The EMPLOYER based on the recommendations of Architect, shall grant fair and reasonable extension of time for the completion of works in the following cases. :

1. By force majeure; as desired hereunder:-

The CONTRACTOR shall not be held in default in performance of his obligations if such performance is prevented or delayed due to any unforeseen causes beyond his control such as Act of God, action of Govt. in its sovereign capacity and its statutory bodies, Civil commotion, flood, earthquake or any other natural calamities which cannot be foreseen.

However, it shall be incumbent on the CONTRACTOR to inform the EMPLOYER/Architect regarding conditions of force majeure in writing with documentary proof within 15 days of commencement and completion of Force majeure circumstances.

2. By the works or delays of other Contractor's or tradesmen engaged by the EMPLOYER.

3. In consequence of the CONTRACTOR not having received in due time necessary instruction/clearance from the Architect for which he shall have specifically applied in writing, fifteen days before its actual requirement. No claim whatsoever for any extra compensation in respect of or arising out of extension of time as specified above shall be payable by the EMPLOYER.

#### **1.43 CERTIFICATE OF COMPLETION:-**

1. Immediately after completion of the whole work which has been mentioned in the contract, the CONTRACTOR shall give notice thereof to the Architect with a copy to the EMPLOYER. The work shall be completed to the entire satisfaction of the Architect and the EMPLOYER. If satisfied the Architect shall issue the certificate of completion.
2. The works shall not be considered as completed unless the Architect has certified in writing that they have been accepted by the EMPLOYER. The defects liability period as mentioned in Clause 1.46 shall commence from the date certified by the Architect as date of completion.

#### **1.44 AS BUILT DRAWINGS:-**

The CONTRACTOR shall submit 2 sets of As Built Drawings along with CD'S for all trades of work to the ENGINEER-IN-CHARGE for his approval along with the Final Bill.

#### **1.45 DEFECTS LIABILITY PERIOD:-**

- 1a Defects Liability Period shall be **twelve (12) calendar months** after actual completion of the works as certified under clause 1.43. Any defects in material or workmanship observed in the entire work during execution or work or within Defects Liability Period, shall be notified in writing by the Architect or EMPLOYER to the Contractor and shall be rectified by him at his own cost within time as specified by Architect/EMPLOYER.
- 1b To facilitate prompt attention to the defects, the CONTRACTOR shall employ a team of tradesmen like Masons, Plasterers, Carpenters, Plumbers, Fitters and Labors covering all trades along with necessary materials and spares. A supervisor will also be available along with the maintenance team to take instructions from Architect/EMPLOYER. The maintenance team will be available throughout the defects liability period. The composition of the tradesmen will vary according to the nature of recurring defects noticed in the buildings. In case of default, the Architect/EMPLOYER may employ any other person to rectify or make good such defects. All expense consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the EMPLOYER and shall be deducted from RA bills or Retention Money or Performance Guarantee/ Retention Money.
2. Should any defective works have been done or material supplied by any sub CONTRACTOR employed, the CONTRACTOR shall be liable to make good in the same manner as if such work or material has been done or supplied by the CONTRACTOR. The CONTRACTOR shall remain liable under the provisions of this clause notwithstanding the signing by the Architect of any certificate or passing any account.

3. The architect shall also certify at the end of the Defects Liability Period regarding the state of rectification of defects pointed out during defect liability period.

#### **1.46 LIQUIDATED DAMAGES:-**

If the CONTRACTOR fails to complete the works by the due date or within extended time, the Contractor shall be liable to pay compensation to the EMPLOYER at the rate of 0.5 % of the contract value for every week of delay subject to a maximum penalty of 10% of the contract value. Delay beyond One months shall render the Retention Money to be forfeited and in addition a penalty of Rs. 5 Lacs (Rupees Five Lacs Only) will be payable by the CONTRACTOR, the Contract will come to end and the EMPLOYER shall be at liberty to withdraw the work and get it executed from any other agency at Contractor's risk and cost and the site shall be vacated by Contractor immediately.

#### **1.47 ESCALATION:-**

The contract amount shall remain firm and shall not be subject to any escalation whatsoever.

#### **1.48 SECURED ADVANCE:-**

No secured Advance will be paid.

#### **1.49 RETENTION MONEY**

Ten percent (10%) of the Contract value will be deducted towards Retention Money. It will be deducted from every RA bill @ 10% of the gross bill amount. Alternately Contractor can submit a Bank Guarantee for equivalent amount, before payment of 1st RA bill.

#### **1.50 RUNNING ACCOUNT PAYMENTS:-**

- a) The Contractor shall submit bills for the work done as per provision given in Section –V – Appendix form of tender, Point no. 16 on page no 69.
- b) Any certificate relating to work done or materials delivered may be modified or corrected by any subsequent certificates or by the final certificate and no certificate of the EMPLOYER supporting any payment shall on itself be conclusive evidence that any work or materials to which it relates are in accordance with the contract.

The running account payments shall be cleared by the EMPLOYER within 21 working days from the date of the receipt of Contractor's bill, if found in order.

- c) All payments to the CONTRACTOR shall be subject to deduction of Income tax at Source as per section 194(c) of Income Tax Act and other deductions as per contract.
- d) All interim payments shall be treated as advance payments. On completion of the entire work, the Contractor shall submit his final bill.

#### **1.51 FINAL BILL:-**

1. The final bill shall be submitted by the Contractor in duplicate within one month of virtual completion of the works to the satisfaction of the Architect and EMPLOYER.
2. It shall be accompanied by all abstracts, vouchers etc. supporting it and shall be prepared in the manner prescribed by the EMPLOYER.
3. No charges shall be allowed to the CONTRACTOR on account of the preparation of the final bill.
4. No further claims shall be made by the CONTRACTOR after submission of a final bill, and other claims if at all, shall be deemed to have been waived and extinguished with his free consent.
5. The Engineer-in-charge shall check and forward the final bill along with all the measurement books in original to the Architect and with Architect's signature, it will be sent to the EMPLOYER.

6. The CONTRACTOR shall be entitled to be paid the full measurement value of work less the value of payment made on account and any charges properly preferred under the conditions of contract, for stores supplied by the EMPLOYER subject to the certification of the final bill by the Architect.
7. Payment of those items of the final bill in respect of which there is no dispute shall be made within 60 days of receipt of bill from the CONTRACTOR.
8. After the payment of the amount of the final bill, the CONTRACTOR may, if he so desires, reconsider his position in respect of the disputed portion of the final bill and take step for settlement and if he fails to do so within 30 days, his disputed claim shall be deemed to have been waived and abandoned by the CONTRACTOR.
9. All payments due under this contract shall be made by means of a crossed cheque 'A/C payee' /RTGS/NEFT.

#### **1.52 RECOVERY FROM CONTRACTOR:-**

1. Whenever any claim for payment of a sum of money arises(s) out under this contract against the CONTRACTOR the CONTRACTOR shall on demand make the payment of the same or agree for effecting adjustment from any amounts due to him by the EMPLOYER. If, however, he refuses or neglects to make the payments on demand or does not agree for effecting adjustment from any amount due to him, the EMPLOYER shall be entitled to withhold an amount not exceeding the amount of claim(s), from any sum then due or which at any time thereafter may become due to the CONTRACTOR under this or any other contract with the EMPLOYER or from the Contractor's Retention Money and retain the same by way of lien till such time, payment is made by the CONTRACTOR or till the claim(s) is/are settled or adjusted.
2. It is an agreed condition of this contract that the sum of money(s) withheld or retained as and by way of lien under this condition by the EMPLOYER, will be kept, withheld or retained as such by the EMPLOYER, till the claims arising out of or under this contract is settled or adjusted and that the CONTRACTOR will have no claim for interest or damages whatsoever on any account in respect of such sum so withheld.

#### **1.53 DETERMINATION:-**

1. The EMPLOYER may without prejudice to any other right or remedy cancel the contract in part or whole in any of the following cases :

If Contractor:

- (i) Being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or having received orders for administration of his estate made against him or shall take any proceedings for liquidation or composition under any Insolvency Act for the time being in force or made any conveyance or assignment of his effects or composition or arrangement for the benefits of his creditor or purport so to do or if any application be made under Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be granted by him for and behalf of his creditors or.
- (ii) Being a company shall pass a resolution or the court shall make an order for the liquidation of its affairs or a receiver or manager on behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the court or debenture holders to appoint a receiver or Manager, or.
- (iii) Assigns, transfers or subjects or attempts to assigns transfer or sublet any portion of the works without the prior written approval of the EMPLOYER or.
- (iv) Makes defaults in commencing the work within a reasonable time from the date of the handing over of the site and continue in that state after reasonable notice from the Architect and or EMPLOYER.

- (v) In the opinion of the EMPLOYER/Architect at any time whether before or after the date or extended date for completion makes defaults in proceeding with the works with due diligence and continues in that state after reasonable notice from the Architect and or EMPLOYER or delays the project.
  - (vi) Fails to comply with any of the terms and conditions of the contract after reasonable notice in writing with directions properly issued there under.
  - (vii) Fails to complete the works, work order and items of work within individual dates for completion and clear the site on or before the date of completion.
2. Whenever the EMPLOYER exercises his authority to cancel the contract under any Clause, he may complete the works by any means at the Contractor's risk and expense provided always that in event of cost of completion after alternative arrangements have been finalized by the EMPLOYER to get the works completed or estimated cost of completion (as certified by the Architect) and approved by the EMPLOYER being less than the contract cost, the advantage shall accrue to the EMPLOYER. If the cost of completion after the alternative arrangements have been finalized by the EMPLOYER to get the work completed or estimated cost of completion (as certified by the Architect) and approved by the EMPLOYER exceeds the money due to the CONTRACTOR under this contract, the CONTRACTOR shall either pay the excess amount assessed by the Architect or the same shall be recovered from the CONTRACTOR by adjustments from outstanding or by other means.
  3. The EMPLOYER shall also be at liberty to use the materials and other stores on site as he thinks proper in completing the work and the CONTRACTOR will be allowed the necessary credit. The amount of credit to be allowed in completing the work shall be assessed by the Architect and approved by the EMPLOYER and the amount so assessed shall be final and binding on the CONTRACTOR.
  4. In case the EMPLOYER completes or decides to complete the works under the provisions of this contract, the cost of such completion to be taken into account in determining the excess cost to be charged to the CONTRACTOR under this condition shall be the cost or estimated cost (as certified by the Architect) of materials purchased or required to be purchased and or the labour provided or required to be provided by the EMPLOYER, as also the cost of the Contractor's materials used with addition of 25% (twenty Five percent) to cover superintendence and establishment charges.

#### **1.54 FORECLOSING OF WORK:-**

1. If at any time after the acceptance of the tender, the EMPLOYER, for any reason whatsoever, does not require the whole or any part of the works to be carried out, the EMPLOYER shall give notice in writing of the fact 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 work in full but which he did not derive in consequence of the foreclosing of whole or part of the works.
2. He shall be paid at contract rates for the full amount of the executed works including such additional work e.g. clearing of site etc. as may be rendered necessary by the said foreclosing, he shall be allowed a reasonable payment (as decided by the EMPLOYER) for any expenses sustained on account of labour and materials collected but which could not be utilized on the works.

#### **1.55 SETTLEMENT OF DISPUTES:-**

If the Contractor considers any work demanded of him to be outside the requirements of the Contract, or considers any drawings, record or ruling of the Engineer-in-charge on any matter in connection with or arising out of the Contract or the carrying out of the work to be unacceptable, he shall promptly ask the Engineer-in-charge in writing, for written instructions of decision. There upon the Engineer-in-charge shall give his written instructions or decision within a period of thirty days of such request.

Upon the receipt of the written instructions or decisions, the Contractor shall promptly proceed without delay to comply with such instructions or decisions.



If the Engineer-in-charge fails to give his instructions or decisions in writing within a period of thirty days after being requested, or if the Contractor is dissatisfied with the instructions and decisions, he shall appeal to the EMPLOYER, which shall accord an opportunity to the Contractor to be heard and to offer an evidence in support of his appeal. The EMPLOYER shall give a decision within a period of thirty days after the Contractor has given the said evidence in support of his appeal.

If the Contractor is dissatisfied with this decision, the Contractor within a period of thirty days from the receipt of the decision shall indicate his intention to refer the dispute to Arbitration, failing which the said decision shall be final and conclusive.

#### **1.56 ARBITRATION:-**

In the event of any dispute in the interpretation of the terms and conditions of this contract/ agreement or difference of opinion between the parties or any point in the order / contract arising out of or in connection with the agreement/ accepted order/ contract or with regard to performance of any obligation hereunder by either party, the parties hereto shall use their best efforts to settle such disputes or difference of opinion amicably by mutual negotiations. In case no agreement is reached, either party may forthwith give to the other, a notice in writing of the existence of such question, dispute or difference of opinion and the same shall be referred to the sole arbitrator to be appointed mutually by the parties.

The Arbitration and Conciliation Act, 1996 and any statutory modification or re-enactment thereof, shall apply to these arbitration proceedings. The seat of Arbitration will be at New Delhi and the language of the arbitration proceeding and that of all documents and communications between the parties shall be in English. The decision of the arbitrator shall be final and binding upon both the parties. All arbitration awards shall be in writing and shall state the reasons for the award. The expenses of the arbitrator as determined by the arbitrator shall be shared equally by the parties. However, the expenses incurred by each party in connection with the preparation, presentation shall be borne by the party itself.

#### **1.57 SITE ORDER BOOK:-**

1. A site order book shall be kept at PMC's office at site of work. As far as possible, all orders/ regarding the work shall be entered in this book. All entries shall be signed by PMC, his authorized sub-ordinates who are in-charge of work or his representatives. In important cases, PMC will countersign the entries which have been made.
2. The site order book shall not be removed from the work site except with written permission of PMC. The contractor or his representative shall be bound to take note of all instructions and directions meant for the contractor as entered in the site order book.

#### **1.58 ACTION WHERE NO SPECIFICATIONS ARE SPECIFIED:-**

The contractor shall execute all the work as per BOQ, drawings and specifications. In case of any class of work for which there is no such specification, such work shall be carried out in accordance with standard CPWD Specifications or Bureau of Indian Standards (BIS). In case there is no such specification in BIS, the work shall be carried out as per manufacturer's specification or standard engineering practices at the discretion of PMC/Engineer-in-charge.

#### **1.59 REQUIREMENT OF MINIMUM TECHNICAL STAFF TO BE DEPLOYED:-**

	<b>Contract Period</b>	<b>Qualification</b>	<b>Number</b>	<b>Min Experience</b>	<b>Remarks</b>
	<b>03</b>	<b>(i) Graduate Engineer/Diploma Engineer</b>	<b>1</b>	<b>5</b>	<b>Principal Technical Representative</b>
		<b>(ii) Supervisor</b>	<b>1</b>	<b>7</b>	

**In case of non-compliance, rate of recovery will be done at following rates:-**

<b>Sl.No.</b>	<b>Qualification</b>	<b>Rate of recovery</b>
<b>(i)</b>	<b>Graduate Engineer/ Diploma Engineer</b>	<b>Rs.50,000/-p.m.</b>
<b>(ii)</b>	<b>Supervisor</b>	<b>Rs.25,000/-p.m.</b>

## **2 LOGISTICS PLAN FOR HEALTH**

### **2.1 LABOUR AND EMPLOYMENT LAWS**

1. No labour below the age of eighteen (18) years shall be employed on the Project.
2. The Contractor shall not pay the laborers engaged by it on the Project less than what is provided for under the applicable laws. Whether for time or piece work, based on the applicable rates of wages as fixed under law at the time. The Contractor shall ensure that the provisions of the Minimum Wages Act, 1948 and the Provident Fund Act, 1952, as amended from time to time, are fully complied with. The Contractor shall maintain the necessary registers and records for payment of wages, overtime, Provident Fund etc, made to its workmen / Regional Provident Fund Commissioner as required by the Conciliation Officer (Central) Ministry of Labour, Government of India, Provident Fund Department or such authorized person appointed by the Central and/or State Government. The Contractor shall ensure that this is complied by him including any labour CONTRACTOR employed by him.
3. The Contractor, at his own expense, shall comply with all the current applicable labour laws and keep the EMPLOYER indemnified thereof.
4. The Contractor shall pay equal wages to both men and women in accordance with the applicable Labour Laws.
5. The Contractor is covered under the Contractor Labour (Regulation and Abolition) Act, 1970, it shall obtain a license from the licensing authority (i.e. Office of the Labour Commissioner) by payment of the necessary prescribed fee and deposit. Such fee and deposits shall be borne by the Contractors and included in their Tender.
6. The Contractor shall employ labour in sufficient numbers, either directly or through Sub-Contractors, to maintain the required rate of progress and of quality to ensure workmanship to the degree specified in the Contract documents and to the satisfaction of the PMC.
7. The Contractor shall furnish to the PMC the labour returns of the number and description, by trades, of the people employed on the Project every Saturday. This shall be for the preceding week.
8. The Contractor shall submit in the last working day of each month to the Engineer – In charge an Accident Status Report. This shall show the accidents that occurred during that time period; the circumstances under which they occurred; and the extent of damage caused by them.
9. The Contractor shall submit on the last working day of each month to the PMC a Maternity Benefits Statement. This shall identify the number of female workers who have been allowed Maternity Benefit as provided under the Maternity Benefit Act 1961, or the Rules made there under, and the amounts paid to them.
10. The Contractor shall comply with all the provisions of the following statutory Acts or any modifications thereto and the rules made there under from time to time.
  - The Factories Act, 1948
  - The Payment of Wages Act, 1936
  - The Minimum Wages Act ,1948
  - The Employers' Liability Act, 1938
  - The Apprentices Act, 1961
  - The Workmen's Compensation Act, 1923
  - The Industrial Disputes Act, 1947
  - The Maternity Benefits Act, 1961
  - The Contract Labour (Regulation and Abolition) Act, 1970
  - The Employment of Children Act, 1933
  - The Provident Funds and Miscellaneous Provisions Act, 1952
  - The Employee's Pension Scheme, 1995

11. Should a report be made by an Inspecting Officer, as defined in the Contract Labour (Regulation and Abolition) Act 1970, the Employer shall have the right to deduct from any money due to the Contractor any sum required, or estimated to be required, for making good the loss(es) suffered by a worker or workers by the reason of non-fulfillment of the Conditions of the Contract relating to the benefits of workers, non-payment of wages or of deduction made from their wages which are not justified by the terms of the Contract or non-observance.
12. The Contractor shall indemnify the EMPLOYER against any payments to be made under and for the observance of the provisions of the aforesaid Acts.
  - (i) In the event of the Contractor committing a default or breach of any of the provisions of the aforementioned Acts, as amended from time to time, of furnishing any information or submitting or filling in any Form/Register/Slip under the provision of these Acts which is materially incorrect, then on the report of the Inspecting officers, the Contractor shall, without prejudice to any other liability, pay to the EMPLOYER a sum not exceeding Rs. 1000.00 as Liquidated Damages. This shall be applied to each incident for every default, breach or furnishing of, submitting, making and/or filling-in materially incorrect statements, the exact amount shall be fixed by the Architect.
  - (ii) In the event of the Contractor's default continuing in this respect, the Liquidated Damages may be increased to Rs 100.00 per day for each day that default occurs up to a maximum of one percent (1%) of the Contract Amount.
  - (iii) The Employer shall deduct such amounts from the RA bill or the Retention Money of the Contractor and credit the same to the Welfare Fund constituted under these Acts. The decision of the Employer in this respect shall be final and binding.

## **2.2 HEALTH AND SANITARY ARRANGEMENT FOR WORKERS EMPLOYED BY THE CONTRACTOR**

1. These rules shall apply to all the building and construction contracts.
2. In respect of all labour directly or indirectly employed on the Project for the execution of the works which is for the performance of the Contractor's part of this contract, the Contractor shall comply with, or cause to be complied with, all the rules and regulations of the local sanitary and other Authorities or as required by the Employer from time to time for the provision of the adequate Health and Sanitary arrangements for all workers.
3. The Contractor shall provide off site, if required, its own separate labour camp complete with all amenities such as electricity, water and other health and sanitary arrangements. The Contractor shall also provide all the necessary surface transportation to the project site and back to the labour camp for all their labour personnel accommodated in the labour camp.

## **2.3 FIRST AID**

The Contractor shall provide and maintain at the Project site, in an easily accessible place, first aid supplies including an adequate supply of sterilized dressings etc. These supplies shall be kept in good order and a member of the Contractor's staff trained to carry out this shall be nominated to be in charge of the same and shall be readily available during working hours.

The Contractor shall maintain on site at all times a car, if required, shall be available to take any injured person or persons to the nearest hospital.

## **2.4 DRINKING WATER**

The Contractor shall provide and maintain at one central location, easily accessible to labour, a sufficient supply of safe drinking water. The water supply storage container shall be no closer than 20 meters from any latrine, drain or other source of pollutions. Where water is obtained from an existing well, which is within the proximity of latrines, drains or other sources of pollutions, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be closed securely and be provided with a trap door that shall be dust proof and seal the opening. A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and shall be opened only for cleaning and inspection, which shall be done at least once a calendar month.

### **3. SAFETY PROCEDURES**

#### **INTRODUCTION**

Safe methods of working shall be a main consideration in all operations. Contractors shall provide PMC with details of their methods of work, highlighting the safety aspects. It is the responsibility of all persons employed on this project to act responsibly to prevent accidents to themselves and to others. Notwithstanding the provisions contained herein the Contractor is not exempted from the enforcement of any Act or Rule.

#### **1. Each Contractor is responsible for the safety of his work by:**

- (i) Providing safe plant, equipment and working conditions.
- (ii) Ensuring the establishment of safe working procedures.
- (iii) Providing suitable protective equipment and clothing e.g. gloves, ear muffs and goggles.
- (iv) Providing adequate job training.
- (v) Providing fire extinguishers and first aid box.
- (vi) Reporting all accidents and dangerous occurrences, with copies to Employer
- (vii) Ensuring that hazardous materials, if necessary on site, will be stored and used in a safe manner.

#### **2. It is the duty of all persons employed on site:**

- (i) To report defects in any plant or equipment to his supervisor and to cease using that equipment if it is in a dangerous condition.
- (ii) To comply with all safety procedures necessary at his place of work as defined by legislation.
- (iii) To wear the personal protective equipment required for his own safety.
- (iv) To co-operate with management in creating and maintaining a high standard of safety, health and welfare.
- (v) To familiarize themselves and comply with the agreed methods and systems for working.
- (vi) To assist management by taking all possible steps to avoid accidents.

#### **3. Persons responsible for safety:**

It remains the responsibility of each Contractor to name his Site Manager, who will be responsible for the safety of his works, and also his company safety officer along with his contact details.

#### **3.1 SITE SAFETY POLICY**

This section covers safety objectives. Detailed procedures are given in the **Site Safety Manual**.

##### **I Safety Plan:**

The Safety Plan is to be prepared by the Site Safety Officer and is to cover all of the following:

<b>Damage Avoidance</b>	Planning and co-coordinating all work to avoid bodily injury, property damage and loss of productive time
<b>Detection &amp; Correction</b>	Establishing and maintaining a system for prompt detection and correction of unsafe practices and conditions.
<b>Protective Equipment</b>	Assuring the availability and use of personal protective equipment.

<b>Inspection &amp; Maintenance</b>	Establishing and maintaining an effective and comprehensive inspection and maintenance system and record.
<b>Training</b>	Establishing and supporting an educational and job skill training designed to ensure a safe working environment.
<b>Investigations</b>	Investigating accidents to determine cause and take the necessary corrective action.
<b>Control / Protection</b>	Providing visitor control and hazard protection.
<b>Site Security</b>	Providing project site security.
<b>Material Storage</b>	Controlling the placement of materials received consistent with the traffic control pattern established.
<b>Fire Protection</b>	Providing fire protection in co-ordination with local authorities. The Contractor shall provide and maintain adequate fire protection in the form of barrels of water with buckets tanks, fire extinguishers, or other effective means of extinguishing fire, ready for instant use. The Contractor shall follow the instructions and specifications of the concerned local authorities.
<b>Compliance to Regulations</b>	Ensuring compliance with the laws, ordinances, rules and regulations issued or promulgated by state, local and governmental agencies.

## **II. Responsibilities:**

<b>Site Safety Officer/Manager</b>	<p>Responsible for:</p> <p>the health and safety of all Site personnel.</p> <p>Implementing Site Safety Policy and Procedures.</p> <p>Responsibilities include :</p> <p>Preparing the Site Safety Plan.</p> <p>Obtaining a Safety plan from all Trade Contractors describing hazards particular to that trade.</p> <p>Ensuring that daily job site safety inspections are conducted and then forwarding a written report to PMC.</p> <p>Developing a fire evacuation plan.</p>
<b>Safety Supervisor</b>	<p>Before commencement of work, the CONTRACTOR shall appoint a Safety Supervisor and to submit a detailed site safety plan for hazards particular to that trade.</p> <p>Responsibilities include :</p> <p>Providing and enforcing the use of personnel protective equipment and ensuring attendance of all employees at the regular “Tool Box”</p> <p>Taking immediate action to correct unsafe practices or conditions.</p> <p>Ensuring adequate first aid supplies are available and that there are personnel on site qualified to administer first aid.</p> <p>Ensuring that Safety Rules and Emergency Telephone numbers are posted in a prominent place.</p> <p>Ensuring all accidents are reported in a timely manner.</p>

### **III Accident / Incident Reports:**

Timely reporting	Any injury or injury resulting in fatality shall be reported immediately to the PMC who, in turn shall notify the same to the Employer.
Injuries	Any accident involving injury is reported to PMC using the form shown in attachment.
Timely reporting	Each incident on site shall be reported as soon as possible, but of incidents no later than 24 hours after the incident. The form shown in attachment is to be used.

Note:

An incident can include lost property, damaged property, injury, fire, crime etc.

The logs are maintained and updated as needed by the PMC using the format shown in attachment.

### **IV. Public Relations:**

<b>Reporting</b>	All inquiries regarding any incident or accident received by the Contractor shall be reported immediately to the PMC or his Representative for appropriate action. The same shall be informed to the EMPLOYER immediately.  Site personnel shall not discuss accidents/incidents with the media.
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## **4. SITE SAFETY MANUAL**

### **INTRODUCTION**

This manual has been divided into well-defined sections; these section provide supporting information to the checklist.

#### **Tool Box Meetings**

These meetings shall be held at the project start up time and shall continue on a regular basis; in addition, if an accident has occurred on site, a meeting should be held once the cause has been established.

A specific topic should be covered at these meetings. Each section in this manual would form a suitable topic. The contractor shall maintain the record of the meetings.

#### **4.1 GENERAL SAFETY PRACTICES:-**

1. Foremen and supervisors shall insist on employees observing and obeying every rule, regulation and order as necessary for the safe conduct of work.
2. Every workman shall know how to do his job/perform his duties safely. Never take chances or use unsafe methods, tools or equipment. If you do not know how to do the job safely, ask your supervisor.
3. Take interest in your co-workers. Explain or show them the safe methods of doing the work and caution them about dangerous or unsafe acts.
4. Anyone known to be under the influence of any intoxicating substance shall not be allowed on the job. Drugs, pills, tranquilizers etc are not be taken on the job unless written permission is obtained from a doctor.
5. No one shall knowingly be permitted or required to work while his ability or alertness is so impaired by fatigue, illness or other causes that might, unnecessarily, expose him or others to injury.
6. Fighting, quarrelling, being abusive etc. are forbidden on the job.
7. Firearms and ammunition are not be brought to the job site at any time.

8. Never throw material or equipment of scaffolding. Someone may be walking or working below.
9. "Tool Box" safety meetings shall be conducted by foremen on a regular basis. All workers on site shall be instructed on accident prevention.
10. No one shall operate equipment or use tools which have been tagged "DO NOT OPERATE" or "OUT OF ORDER" until required repairs have been made and said tag has been removed by an authorized person.
11. Notify the Safety Officer regarding use and storage of chemicals.
12. Adequate precaution shall be taken by the Contractor to ensure no materials shall be so stacked or placed, so as to cause danger or inconvenience to any person or the Public. The Contractor shall provide all necessary fencing and lights to protect public from accidents and shall be bound to bear expenses of defence of every suit, action, other proceedings of law that may be brought by any person for injury sustained owing to neglect of the above precautions to pay any damages and costs which may be awarded in any such suit action or proceedings to any such person.

#### **4.2 PERSONAL PROTECTIVE EQUIPMENT:-**

Whenever there is a possibility of exposure to hazardous material or operations, personal protective equipment or devices shall be worn or used. These include (but are not limited to) hard hats, safety shoes, safety glasses and goggles, gloves, protective suits, hoods, respiratory equipment and proper hearing protection.

The Contractors at all levels will be held responsible for ensuring that workers wear proper protective equipment .

##### **1. Hard Hats:**

All personnel working in areas where there is a possible danger of head injury from impact, or from falling objects, shall be protected by protective helmets. This will be interpreted as all areas within the site boundary except inside permanent or temporary structures not under construction.

Helmets shall conform to the specifications contained in the National Standards

Employees of Contractors who are represented on the construction site, who apply for entry to the project and are not in possession of an approved hard hat, will be asked to remain at the security gate until arrangements can be made by their supervisor / foremen to obtain an approved hard hat.

##### **2. Eye Protection:**

Eye protective gear shall be used while doing work that may cause possible injury to eyes from flying particles, grinding, splashes, welding or cutting operations.

##### **3. Safety Shoes :**

All workers must use safety shoes

##### **4. Clothing:**

To be suitable for the type of work in which they are engaged.

##### **5. Hearing protection:**

Hearing protection equipment shall be used by all the workers while operating pneumatic equipment.

##### **6. Respirators :**

Whenever and wherever necessary to protect from dust, gases, hazardous chemical and vapors.



## **7. Safety belts :**

Safety belts shall be used while working from high places.

## **8. Protective gloves :**

To be worn as work activity may require.

## **9. Housekeeping:**

- (i) Place debris, rubbish and waste in proper containers.
- (ii) Place and store material and equipment in designated storage areas.
- (iii) Working areas, passageways, stairs and exits shall be kept free from all debris, equipment, tools and other sharp objects.
- (iv) Avoid spilling liquids. Wipe off spills immediately.
- (v) Use safety cans to store flammable liquids.
- (vi) Sharps objects protruding from timber from panels etc are to be pulled or bent over.
- (vii) Debris and combustible scarp shall be disposed off on a regular basis and not allowed to accumulate.

## **4.3 LADDERS:**

- 1. Select the right ladders for the job. Do not use a too long or too short ladder. Do not splice two ladders together. Do not use lightweight or household ladders in a heavy construction job. Do not use metal ladders near electrical circuits, fixtures or power lines.
- 2. Check the condition of ladder for cracked or split rails; for missing or broken steps, cleats, rungs, treads or U-shapes; for sharp edges or splinters.
- 3. If any of the above conditions exist, withdraw the ladder from use and fix it at once if possible if it cannot be fixed, destroy it. Every ladder should have identification tags, records of maintenance and inspection must be maintained.
- 4. Use ladder safely. Place it with care; do not lean it against a movable object. Make sure it is not placed on a loose object or uneven footing. Do not place it too close to a wall. The horizontal distance from wall to the foot of the ladder should never be less than 1.4 times the length and it should extend at least 36 inches above the upper horizontal edge. Tie ladder with rope or wire. If wire is used, be careful to protect users from injury.
- 5. Only one person at a time shall be permitted on a ladder.
- 6. Always face the ladder and grasp the side rails or rungs with both hands when ascending and descending.
- 7. Do not carry tools or material when going up or down ladders. Use a bucket or canvas bag on a rope to haul or lower then.
- 8. Be sure the soles of your shoes are free from dirt oil and mud before using ladder.
- 9. Never work above the second rung from the top of the ladder.
- 10. Stepladders should not be over 10feet long. Do not use a stepladder as a straight ladder.

#### **4.4 SCAFFOLDING:**

1. Scaffold should be tubular and designed for the loads it will carry. Bamboo shall not be used as scaffold. Inspect the scaffold before use.
2. Scaffold planks must be tested, carefully erected and made secure to prevent slipping by using cleats or tying.
3. Scaffold to be braced/tied to the permanent structure at suitable intervals to prevent overturning.
4. All scaffolds shall have handrails and toe boards (minimum 4 inches height).
5. There is no such thing as a temporary scaffold.
6. Ladders should be attached for ascent and descent on scaffolds.
7. Any defects, loose knots or cracks in a scaffold plank will make that plank useless.
8. Guard rails shall be 50mm by 100mm or the equivalent, approximately 1050mm high, with a mid-rail. Supports shall be at intervals not to exceed 2400mm.
9. Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders etc weakened from any cause shall be immediately repaired or replaced.

#### **4.5 MACHINERY AND VEHICLES:**

1. Equipment shall be safely built, economical and long- life operational.
2. Only experienced and authorized persons shall operate power equipment. Before being allowed to operate a particular piece of equipment, the employee/workman must prove by actual demonstration to the supervisor that he understands the operation.
3. Operators shall make careful inspection of their equipment at the start of each shift, before operating, and required repairs shall be made to the equipment.
4. Cleaning, oiling, fueling or repairing should not to be done on equipment while it is in operation.
5. The operator can take standard industry hand signals from only one designated person.
6. Cranes or other equipment shall not lift loads in excess of the manufacture's maximum load limit displayed on the equipment. Lifting equipment must be tested by a competent authority and records of the same should be maintained.
7. Electrical installations must confirm to IE (Indian Electricity Rules) and BIS (Bureau of Indian standards).
8. Do not operate equipment within 300mm of high voltage lines. For lines over 50000 volts, increase operating clearance 1mm for each additional 1000 volts.
9. Where it is difficult for the operator to see overhead high voltage lines or obstacles, a person shall be designated to observe and give him warning required to maintain safe clearance.
10. Do not work under vehicles supported by jacks or chain hoists without protective blocking that will prevent injury if jacks or hoists should fail.
11. Before operating excavating equipment near tops of cuts, banks and cliffs, be sure no one is below.
12. Tractors, bulldozers and carryalls should be operated with care where there is possibility of overturning on dangerous area, such as edges of deep fills, cut banks and steep slopes.

13. No passengers are allowed to ride on or in equipment that does not have a designated seat for each rider.
14. Vehicular and pedestrian path and parking spaces should be clear of overhead operating equipment.

#### **4.6 MATERIAL HANDLING OF OVERHEAD OPERATING EQUIPMENT:**

1. Maximum load carrying capacity of cranes, blocks or chains must be displayed along with the last date tested and the next due date for testing.
2. Do not overload cranes, ropes, blocks or chains. If any such equipment has been damaged or is found to be defective, inform your supervisor.
3. No one shall ride loads, concrete buckets or hooks.
4. Use a guide of “tag line” on loads.
5. Stand clear of taut cables or hoists
6. Keep hands and fingers away from blocks, sheaves or winches.
7. Do not stand under overhead loads.
8. Stack materials neatly and safely as per established guidelines.
9. Keep all material 5500 mm away from sprinkler heads.
10. All material handling equipment must be periodically checked by a competent authority and maintained properly. Records of the same must also be maintained.

#### **4.7 ELECTRICAL:**

1. Whenever possible, an electrical line should be de-energized before work is done on or near it, no matter how low the voltage. Only qualified persons should do such work. Use proper lockout tagging procedures.
2. Persons doing electrical work or working near energized circuits should wear the appropriate safety equipment.
3. All electrical equipment must be properly earthed.
4. Do not overload circuits. Do not use any extension cables that may be damaged.
5. Do not leave electrical cables where vehicles will run over them. If electrical cables must cross a roadway, use protective cross over devices
6. Only approved plugs and receptacles shall be used on all jobs.
7. All electrical work shall be according to local, state or National Electrical Codes.
8. Only licensed electricians are allowed to carry out electrical work.
9. Rubber gloves and rubber shoes/ boots of correct voltage grade shall be used.
10. Temporary supply shall be trapped from a source panel which is properly fabricated, permanently fixed and effectively earthed.
11. Live line testers and test lamp shall not be used. Usage conditions of a multi-meter with long probes are to be followed. Test lamps can be used temporarily if fitted with protective guard.

12. Makeshift connections are prohibited; **Earth Leakage Circuit Breaker (ELCB)** to be used for Portable Electrical Equipment.
13. ELCB's should be checked regularly and records maintained and Work permit system must be used wherever required.

#### **4.8 HAND TOOLS:**

1. Do not use defective tools.
2. Keep faces of hammers in good condition to avoid flying nails, bruising fingers and chipping the hammer head.
3. Hold cold chisels in such a way that the knuckles will be protected if the hammer misses the head.
4. Do not use pipe wrenches as a substitute for other wrenches.
5. Wrenches should not be altered by the addition of handle extensions.
6. Files shall be equipped with handles.
7. Do not use a screwdriver as a chisel.
8. Keep handsaws and other tools sharp and in good condition.
9. Do not lift or lower portable electrical tools by their power cords. Use a rope.
10. Guards on power hand tools must be kept in proper operating condition at all times.
11. Keep electrical cables out of water, oil or chemical.
12. Only qualified persons shall be permitted to use power activated tools. Check the other side of walls, floors, ceiling, etc. before using.
13. Do not use aluminum handled full floats or aluminum ladders where there is a possibility they may come in contact with power lines.
14. Do not use electrical tools while standing in water.
15. All electric hand tools shall be double insulated.
16. Wire cutting tools and knives shall be provided with safe handles.

#### **4.9 WELDING AND BURNING:**

1. Only experienced persons are allowed to do any electrical or acetylene welding or burning.
2. Do not weld or burn in hazardous area without written instructions.
3. Do not burn or weld where hot sparks, hot metal or severed sections could fall on cylinders, hoses, machinery, legs or feet or on flammable materials or where they could strike personnel working below.
4. Do not weld or burn barrels, enclosed tanks of other containers without making sure that nothing flammable has been stored in them or until such tanks have been made safe by filling with water or carbon dioxide under the supervision of a foreman.
5. Never strike an arc on cylinders.
6. Never use matches to light torches. Use a spark lighter or stationary pilot flame.
7. Make sure there is plenty of fresh air when welding is closed or confined places and never use oxygen for ventilation.

8. Do not overload welding cable operating with poor connection. Turn off cylinders and machinery when not in use and roll up cable and hoses.
9. Wear proper head (hard hat), eye and face protection when welding, and protect others from arc burns by using a shield, if possible, or by warning them to wear adequate protection. Welders must see that those working with them have proper head and eye protection.
10. Always refer to acetylene as “acetylene” not “gas”. Refer to oxygen “oxygen” not “air”.
11. Use the cylinder for its intended purposes and nothing else.
12. When cylinders are empty, turn off; remove the gauges; put the protective cap on and mark them “MT or “Empty”.
13. Always transport, store and use acetylene cylinders in a vertical position to avoid loss of acetone.
14. Protective caps shall be in place while transporting, moving and storing cylinders.
15. When cylinders are being hoisted, they shall be secured in a cradle.
16. In keeping “empties” and “full's” separate, use a chain across the storage racks and always tie the bottles.
17. Full cylinders of acetylene and oxygen should be stored at least 20feet apart under a shelter and not exposed to sunlight.
18. Welding sets shall be properly earthed through an insulated conduit to the nearest earth.
19. Work permits system must be used for welding operators.

#### **4.10 WORK IN CONFINED SPACES:**

- When work is done in the interiors of storm drains, sewers, vaults, utility Pipelines, manholes and any other structure which might permit the Accumulation of dangerous vapors or gases, the followings precautions shall be taken:
  1. Workmen/Employees shall be instructed regarding any potential hazards.
  2. Tests for the presence of dangerous and combustible gases and adequate levels of oxygen content shall be made prior to entering a confined work area and at frequent intervals ensure safety of the workman while he is in such structure. A record of such tests will be maintained at the job site.
  3. Sources of ignition, including smoking, will not be allowed until proper tests have been made to ensure safety.
  4. When air is not suitable for breathing, approved respiratory equipment will be used. A safety line shall be attached to employee/workman and standby employee/woerkman shall be within call and sight ready to give assistance in case of emergency.
  5. No work shall be done in the presence of explosive gases or air unsuitable for breathing.
  6. Internal combustion engine-driven equipment shall not be operated inside buildings or confined spaces unless adequate steps have been taken to ensure protection from dangerous concentrations of gases or fumes. Some of the precautions that may provide adequate control are as follows:
    - a) Pumping exhaust gases to outside atmosphere.
    - b) Ventilation which dilutes and removes gases.
    - c) Use of catalytic exhaust scrubbers.

#### **4.11 WORK PERMIT SYSTEM:**

1. Work permit system must be used for the following

- (i) Electrical work
- (ii) Working at Heights
- (iii) Excavation & Demolition
- (iv) Welding or hot work
- (v) Working in confined spaces
- (vi) Any other hazardous operation.

#### **4.12 ENVIROMENTAL CONSIDERATION**

The Contractor shall be concerned with the impact of his work upon the Environment. This applies to the effect upon the residential community, adjacent industrial facilities and upon the area outside the site boundary. Areas of concern will include but are not limited to:

- 1. Use of clean fuels to minimize air polluting emissions.
- 2. Control of other air pollutants.
- 3. Recovery and recycling of usable materials.
- 4. Control of vehicle noise
- 5. Control of noise from power facilities.
- 6. Limitation of vibrations.
- 7. Preservation of archaeological features.

#### **4.13 TRAINING:**

Adequate training must be provided to all supervisors; workers; CONTRACTORS etc on the safe systems of work.

## ACCIDENT REPORT

### Contract details:

Log No.....Date of accident.....Time.....Weather:.....  
Project.....  
Contractor:.....

### Contractor's Personnel or Equipment

Name of injured employee/ workman:.....Age.....  
Sex.....  
Occupation:.....  
Nature of injury: First Aid ( ) Hospital ( ) Fatality ( )  
Type of equipment.....  
Extent of damage:.....

### Other persons or property

Name of injured Party: .....Age..... Sex.....  
Address:.....  
Nature of injury: First Aid ( ) Hospital ( ) Fatality ( )  
Type of property EMPLOYER.....  
Address:.....  
Nature & Extent of damage:.....

### Details of Accident:

Description:.....  
.....  
Primary Cause.....

### Additional Information

whether lack of safety equipment/ breach of safety rules is the cause of accident:

.....

If so, explain: .....

What safety regulations are breached:.....

What corrective action has been taken by the CONTRACTOR: .....

.....

Reported by: Name..... Position.....

Signature.....Date .....

## INCIDENT REPORT

### Contract details:

Log No.....Date of incident.....Time.....

Project.....

Contractor:.....Address.....Phone.....

**Lost Property/ Damaged Property/ Fire/ Visitor / Suspected Crime or Offence/ Any other unusual occurrence or condition**

### Contractor's Employee /workman/ Public:

**Property involved :**

**Brief description of incident :**

**Police Contacted : yes/no**

**Date/Time:**

**Witness: Name**

**Address**

**Phone**

**Reported by:** Name..... Position.....

Signature .....Date ..:



**SECTION IV**  
**SPECIAL CONDITIONS OF CONTRACT**

## **SECTION IV - SPECIAL CONDITIONS OF CONTRACT**

### **TABLE OF CONTENTS**

<b>Clause no</b>	<b>Description</b>	<b>Page No.</b>
1.	General	58
2.	Electricity and Water for Construction	63
3.	Sewage	63
4.	Taxes and Insurance	63
5.	Secured Advance	63
6.	Site Facilities	63
7.	Access to Site and Environment	63
8.	Construction Program	63
9.	Rates	63
10.	Security	63
11.	Compliance to Government Regulations and Bye-Laws	63
12.	Materials if supplied by ICAI	64

### **ADDITIONAL CONDITIONS**

1.	Completion of Installation	64
2.	Completion Drawings	64

## SECTION IV - SPECIAL CONDITIONS OF CONTRACT

### 1. GENERAL

1. These Special Conditions of Contract shall be read in conjunction with the General Conditions of Contract and other parts/sections of the Tender Documents. In case any provisions in these Special Conditions (given herein below) are at variance with the General Conditions and/or other sections of the Tender Documents the Special Conditions shall be deemed to take precedence there over.
2. In General Conditions and other parts of the Tender/Contract Documents, if it is stated that the Engineer-in-Charge will issue Approvals, Orders, Certificates for Payments, Completion Certificates, Drawings, Designs, Decisions and Instructions etc. this shall mean that the Engineer-in-Charge shall first obtain the same in writing from EMPLOYER/Architects before issuing it to the Contractor.
3. 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 the EMPLOYER/Architect. The Architect may in his absolute discretion and from time to time, issue further drawings and/or written instructions, details, directions and explanations which are hereinafter collectively referred to as 'Architect's Instructions' in regard to:
  - (i) The variations or modifications of the designs, quality or quantity of works or the addition or omission of works or the addition or omission of substitution of any work.
  - (ii) Any discrepancy in the drawings or between the Bill of Quantities and/or drawings and/or specifications
  - (iii) The removal and/or re-execution or any works executed by the Contractor.
  - (iv) The removal from the site of any material brought thereon by the Contractor and the substitution of any other material therefor.
  - (v) The dismissal from the works of any person employed there upon
  - (vi) The opening up of any covered works for inspection..
  - (vii) The amending and making good of any defects regarding removal of improper works and materials etc.

The Contractor shall forthwith comply and fully execute any work comprised in such Architect's Instruction provided always that verbal instructions, directions and explanations given to the Contractor or his representative upon the works by the Architect shall, if involving a variation be confirmed in writing by the Contractor within 7 days to the Architect, else such shall be deemed to be the Architect's Instructions within the scope of the Contract.

4. The CONTRACTOR should inspect and examine the site and its surrounding thoroughly and should acquaint himself about topography of site, existing structure(s), availability of water, food stuff, labour and other facilities, before tendering for this work. No claims shall be entertained for his failure in this matter. If any approach road or any culvert is required at site from the main road or existing approach is to be improved and maintained for cartage of his material etc., the same shall be provided, improved and maintained at his own cost by CONTRACTOR.
5. The CONTRACTOR shall clear the site of works as per the instructions of the ARCHITECT. The site shall be delivered in a clean and neat condition within a period of one week after Virtual Completion. In case of failure to comply with this requirement by the CONTRACTOR the EMPLOYER may at the advice of the ARCHITECT have the sites cleared by another CONTRACTOR and deduct the cost of carrying out the work from sums due to the CONTRACTOR.
6. The Contractor shall provide and maintain at the site throughout the period of works the following at his own cost and without extra charge, the cost being held to be included in the contract rates:-

- (i) All labour, materials, plant, equipment and temporary works required to complete and maintain the works to the satisfaction of the ARCHITECT/EMPLOYER.
- (ii) Lighting for night work and also whenever and wherever required by the ENGINEER IN-CHARGE
- (iii) Temporary fences, guard lights and protective work necessary for protection of workmen, supervisors, Engineers or any other persons permitted to have access to the site.
- (iv) All equipment, instruments and labour required by the ENGINEER-IN-CHARGE for measurement of the works.
- (v) The separate site offices shall be provided for CONTRACTOR's own staff along with other storage structures/stockyards etc. to keep his own and EMPLOYER's supplied materials, Tools, Plants and Equipments, FAX MACHINE etc. The necessary safety, security, water and protection against rain, sun, and theft etc. is to be provided for all site offices/structures etc.

#### 7. INFORMATION TO BE SUPPLIED BY THE CONTRACTOR AT THE COMMENCEMENT OF THE CONSTRUCTION

The Contractor shall submit the following information within 10 days of the date of issue of Letter of Intent/ Work Order of works:

- (i) Operational method of the site, i.e. holidays, working hours
- (ii) Temporary layout plan
- (iii) Sub CONTRACTORs list
- (iv) Security and management of the site
- (v) Time schedule of the necessary applications to the Authorities
- (vi) Time schedule of the major inspection
- (vii) Time schedule for final completion and handing over the site to the Employer

#### 8. INFORMATION TO BE SUPPLIED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD

A senior representative of the CONTRACTOR shall attend weekly meetings at the site and in addition, meetings as arranged by the ARCHITECT/EMPLOYER to discuss the progress of work and sort out problems if any and ensure that the work is completed in the stipulated time. The CONTRACTOR shall submit to the Engineer-in-Charge, every fortnightly:

- (i) Detailed industrial statistics regarding the labour employed by him daily.
- (ii) A list of technically qualified persons employed by him for the execution of the work.
- (iii) The total quantity and quality of materials used for the works and supplied to site.
- (iv) A fortnightly progress report along with requisite photographs.
- (v) Weather report including temperature and humidity.
- (vi) Special incident at site.
- (vii) Whether the work is progressing according to schedule, or not. If not, what are the problems and the remedial measures to be taken to regain schedule.
- (viii) Inspection record and Schedule
- (ix) Record of the approvals by EMPLOYER/ARCHITECT
- (x) Record of the discussions by EMPLOYER/ARCHITECT
- (xi) Fortnightly Construction Schedule
- (xii) Monthly Construction Schedule
- (xiii) Installation method of the materials, construction, erection of equipments etc.

- 9. i) The CONTRACTOR shall plan, engage, deploy his men, materials and machineries in such a way that suits best in the interest of the progress of the works and no claims on account of idle labour, manpower and machinery shall be entertained at any stage for reasons whatsoever it may be.
- (ii) The CONTRACTOR shall comply with all Safety Rules, Labour Rules, Workmen's Compensation Act, Minimum Wages Act, Building Bye-Laws, Rules and Regulations of Local Authorities or State

Government as applicable to the works. The CONTRACTOR shall bear all the GST, Royalty, Octroi, labour cess and other Taxes, charges etc., as applicable for such works.

- (iii) The CONTRACTOR shall take all precautions to avoid all accidents by providing and exhibiting necessary Caution Boards day and night, speed limit boards, Red Flags, Red Lights and by providing barriers etc. He shall be responsible for any/all damages and accidents caused due to negligence on his part or his workers/subcontractors/Agencies working at site and to the EMPLOYERs of the adjoining areas and to traffic etc, during the execution of work.
  - (iv) During working at site, some restrictions may be imposed by ENGINEER-IN-CHARGE/SECURITY STAFF of EMPLOYER or local authorities regarding safety and security etc. on the working and/or movement of labour, materials etc. The CONTRACTOR shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account. No materials, machinery etc., whether belonging to EMPLOYER or CONTRACTOR, shall be allowed to go out of the site premises without the written authority/gate pass to be issued by EMPLOYER/ENGINEER-IN-CHARGE.
  - (v) CONTRACTOR'S attention is invited to the fact that during the currency of this contract, works on other services which are outside the scope of the work of this contract, may be entrusted for execution to other Agencies. The Contractor shall permit full access and afford all co-operation and facilities for such other agencies or departmental workmen, if any, engaged by EMPLOYER; to carry out their part of works in the site premises. Nothing extra shall however be payable to the CONTRACTOR on this account. Any damage done to the existing structures during the execution of works shall be made good by the CONTRACTOR at his own cost and the rectification/ re installment /making good etc, shall conform to the standard of materials originally used on the work and shall match with existing work in all respects to the entire satisfaction of the ARCHITETS/ENGINEER-IN-CHARGE.
  - (vi) The CONTRACTOR shall secure CONTRACTOR'S ALL RISK POLICY for the full contract value, Third Party Insurance and other Insurance policies as mentioned elsewhere, to cover any loss or damage to any person within the site premises and to works of other persons caused either by his own men, or his subcontractors or persons/machinery T & P deployed by him directly/indirectly. The CONTRACTOR shall keep in force all such policies at his own cost up to the expiry of the Defect Liability Period.
  - (vii) All materials to be used in the work shall be as per Specifications applicable and shall be got approved from EMPLOYER/ARCHITECTS/CONSULTANTS before incorporating /procuring them at site. Unsound materials works shall be removed or dismantled at his own cost and replaced free of cost. All test of materials/water etc. shall be done at CONTRACTOR'S cost in approved laboratories, to be indicated by EMPLOYER/ARCHITECTS/CONSULTANTS.
  - (viii) The CONTRACTOR shall bear all incidental charges for cartage to site, local carriages within the site, storage and safety custody or all materials. Suitable godowns shall be erected, at places to be indicated by ENGINEER-IN-CHARGE at site for the proper storage of all materials, for their safety against damages.
  - (ix) All materials which are stored on site such as., shall be stacked in such a manner as to facilitate rapid and easy checking of quantities of such materials. The safety and security of all materials brought to the site shall be the sole responsibility of the CONTRACTOR. The material against which an advance has been paid by the EMPLOYER, shall be carefully stored and protected at site by the CONTRACTOR. No material shall be removed from the site without the written permission of the EMPLOYER and all materials brought to site shall be used in the contract work only.
  - (x) The CONTRACTOR shall pay all charges in connection with the provision of services to the offices and stores. The CONTRACTOR shall provide and maintain at his own cost and expense adequate sanitary arrangements for the use of workmen and others in accordance with the rules and regulations of all relevant authorities at the location chosen by the ARCHITECT.
10. (i) No compensation shall be payable to the CONTRACTOR for any damage caused by rains, lightning, wind, storm, floods, tornado, earthquake or other natural calamity during the execution of

work. He shall make good all such damages at his own cost; and no claim on this account will be entertained.

- (ii) The CONTRACTOR shall remain fully responsible for safety, soundness of workmanship and water tightness of the works wherever water proofing treatment are done and shall execute a Guarantee Bond on Rs.100/- Stamp paper for any leakage/ seepage/ failure of water proofing systems for period of 10 years (Minimum).
- (iii) The CONTRACTOR shall obtain the virtual completion certificate from the EMPLOYER/ARCHITECTS/CONSULTANTS as soon as the works are completed as per contract and to the entire satisfaction of the EMPLOYER. The 12 months defects liability period and release of Security Deposit installments shall be reckoned from the date of virtual completion.
- (iv) No interest shall be payable on account of delay in payments of bills, release of Earnest Money deposits and/or release of Security Deposits. No interest shall accrue on Earnest Money Deposit / Security Deposits.

#### 11. Samples

- (i) The Contractor shall submit the samples for approval. The CONTRACTOR shall submit one (1) piece of each item to the Architect. Each piece shall be clearly and properly labeled, the approved samples shall be maintained & preserved till completion of project.
- (ii) All such samples shall be truly representative, and shall be sufficiently large to properly and accurately show the quality, texture, color and/or other pertinent characteristics of the finished work or installation(s). In all cases, the finished work shall exactly match the sample in each and every respect.

#### 12. Coordination of Work:

- (i) The CONTRACTOR shall consult all appropriate Drawings and Specifications in order to carry out all aspects and phases of the installation (s) without interference to other portions of the work, and shall verify all dimensions, details, locations, etc. with the Drawings and/or Specifications of all other Divisions where appropriate.
- (ii) Minor changes in the routing of piping conduit and/or in the location of equipment to avoid conflict with other Divisions may be required without additional cost to the EMPLOYER. If such changes do not constitute a modification in the intent of the system or installation(s), conflicts of this nature shall be resolved in the field. In all cases, however, interpretation of what constitutes a modification in the intent of the system or installation(s) shall be made by the ARCHITECT.
- (iii) Major alternations, deletions, additions and/or questions of intent shall be referred in advance, and in writing, to the ARCHITECT for a decision.

#### 13. Cutting and Repairing Openings:

- (i) The CONTRACTOR shall cooperate with work to be done under other sections and Divisions by providing full information in advance as to openings required in walls, slabs and footings for all piping, duct, conduit and equipment, including information on the proper positioning of sleeves.
- (ii) Any drilling or cutting required to carry out work under this contract shall be the responsibility of the CONTRACTOR, and the cost thereof shall be borne by him.
- (iii) For any holes in concrete, the CONTRACTOR shall provide, accurate position and install sleeves in the form(s) before the pouring of the concrete. The CONTRACTOR shall pay any additional costs that may be required for cutting any holes as a result of the incorrect positioning of sleeves. All holes through existing concrete shall be core drilled or saw cut. The CONTRACTOR shall seek and obtain the prior written approval of the ARCHITECT before drilling or cutting any holes in existing concrete.
- (iv) It shall be the responsibility of the CONTRACTOR to ascertain that all chases and openings are properly located.

#### 14. Cleaning and Protection:

- (i) The CONTRACTOR shall keep the work clean and free of waste. All materials delivered to the job site shall be promptly stored in an approved area to minimise congestion or interference with other trades or with the orderly progress of the work.
- (ii) Debris of any kinds shall be removed from the exterior and interior of all equipment, piping, conduit, junction boxes, ductwork, accessories and appurtenances upon completion of the work, and prior to the operation of any system and/or final inspection or and testing.
- (iii) The CONTRACTOR shall provide for the safety and good condition of any and all equipment and/or materials until final acceptance by the ARCHITECT.
- (iv) The CONTRACTOR shall protect all materials and equipment from damage, provide adequate and proper storage facilities during the progress of the work, and take special care to provide proper protection for bearings, open connections, etc.

#### 15. Shop Drawings

The Contractor shall prepare detailed shop drawings and obtain necessary approval from Engineer-in-Charge, before execution of items of work such as Aluminium Works, Stainless Steel Works etc.

#### 16. As Built Drawings

The CONTRACTOR shall submit 2 sets of As Built Drawings and the floppies for all trades of work to the ENGINEER-IN-CHARGE for his approval along with the Final Bill.

#### 17. Secrecy

- (i) The details, information, drawings, specification of material etc. being provided therein are the absolute and exclusive property of the EMPLOYER.
- (ii) The Contractor is required to keep all the information / details / drawings / materials specifications confidential and to maintain secrecy.
- (iii) No information relating to the works shall be copied or otherwise reproduced in any way or conveyed to any third party except as may be essential for proper execution of the works or with the prior written consent of Architect.
- (iv) All contract documents and any other further information deemed relevant by the Architect together with all copies of the same made by Contractor, his subcontractors and suppliers, other concerned with the Works and authorized third parties shall be returned by Contractor to the EMPLOYER upon completion, termination or abandonment of the Contract.
- (v) Neither the Contractor nor his subcontractors, suppliers or any third party shall display any signboards or other form of advertisement at or near the site, until and unless approved by EMPLOYER / Architect.
- (vi) Neither the Contractor nor his Sub-CONTRACTORS, suppliers or any third party shall use or permit to be used any details of the works in any form of publicity or advertisement in any part of the world.
- (vii) Photographic equipment shall not be taken on or near the site and the taking of photographs at or near the site is strictly forbidden until and unless permitted by EMPLOYER / Architects in the interest of the project.

The Contractor shall incorporate into any Sub-contract or Supply Agreements in connection with the works a clause imposing upon the Sub-CONTRACTOR or supplier the same obligations as are imposed upon the Contractor by this clause.

## **2. ELECTRICITY AND WATER FOR CONSTRUCTION**

The Contractor shall arrange temporary water and electricity connections at his own cost.

## **3. SEWAGE**

Temporary sewage connection to the staff toilet and labour quarter is required to be provided by contractor by installing adequate capacity septic tank.

## **4. TAXES, DUTIES AND INSURANCE**

The Tenderer shall include all Government taxes ,duties, cess, charges such as GST, Labor cess etc in the bid price. All expenses towards insurance costs to be included in the bid price.

## **5. SECURED ADVANCE**

No secured Advance will be paid.

## **6. SITE FACILITIES**

The Contractor shall make arrangements for his site office and project engineer's office (200 sq.ft.) with tables, chairs, lockable cupboards, drinking water, display board etc.

## **7. ACCESS TO SITE AND ENVIORNMENT**

The Contractor shall acquaint himself with the proposed site of work, conditions at worksite, its sub-soil strata, underground water table and its approach roads to the site of work, plot boundaries and other site environment before filling quotations. For carriage of materials to the work site preparation of new approach road or repair to existing is required , it would be done by the contractor at his own cost for which nothing extra shall be payable.

## **8. INSTALLATION PROGRAMME**

The Contractor shall submit detailed installation program within first week of allotment of work showing bar chart, progress of work, financial flow, decision required and the no of skilled unskilled labours to be provided.

## **9. RATES**

Rates quoted in the BOQ shall be inclusive of all taxes, leads, lifts, handling costs, transportation, local or outstation, wastage etc.

In case any activity, though specifically not covered in description of Bill of Quantities, but is required to complete the work as per scope of work, scope of supply, specifications, standards, drawings, General Conditions of contract, special conditions of contract or any other part of tender documents, the quoted rates shall be deemed to be inclusive of cost incurred for all such activities.

## **10. SECURITY**

The Contractor shall make this own security arrangements for protection of materials and equipment etc. at site.

## **11. COMPLIANCE TO GOVERNMENT REGULATIONS AND BUILDING BYE LAWS**

- 13.1 The work shall be carried out in the manner complying in all respects with requirements of relevant Bye-laws of the local body under the jurisdiction of which the work is to be executed or as directed by Project Engineer ICAI and nothing extra shall be payable on this account.



- 13.2 The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rules and regulations and pay all fees and charges which may be liable.

## **12. MATERIAL SUPPLIED BY ICAI**

No material will be supplied/issued by the ICAI. The contractor will have to arrange all the materials required for the work including all costs such as transportation, taxes etc.

## **ADDITIONAL CONDITIONS**

### **1. COMPLETION OF INSTALLATION**

On completion of the installation, a certificate shall be furnished by the contractor, counter signed by the licensed supervisor, under whose direct supervision the installation was carried out. This certificate shall be in the prescribed form as required by the local authority.

The contractor shall be responsible for getting the entire electrical installation duly approved by the local authorities concerned, and shall bear expenses if any, in connection with the same.

### **2. COMPLETION DRAWINGS**

Contractor shall periodically submit completion drawings as and when work in all respects is completed in a particular area. These drawings shall be submitted in the form of two sets of CD's and four portfolios (300 x 450 mm) each containing complete set of drawings on approved scale indicating the work as - installed. These drawings shall clearly indicate complete plant room layouts, piping layouts, location of wiring and sequencing of automatic controls, location of all concealed piping, valves, controls, wiring and other services. Each portfolio shall also contain consolidated control diagrams and technical literature on all controls. The contractor shall keep f one set of these consolidated control diagrams in glass frame, in the plant room.

**SECTION - V**  
**TENDER FORM & APPENDIX TO TENDER FORM**

# **SECTION V -TENDER FORM & APPENDIX TO TENDER FORM**

## **TABLE OF CONTENTS**

<b>Clause No</b>	<b>Description</b>	<b>Page No.</b>
1.	Tender Form & Appendix to Tender Form	67-70

## SECTION - V: TENDER FORM & APPENDIX TO TENDER FORM

### TENDER FORM

To

.....  
.....  
.....

Dear Sir:

I/We do hereby tender for the execution of the work specified in the underwritten memorandum within the time specified at the rates therein and in accordance, with & in all respects as per the specifications, drawings, designs and instructions supplied by you, which I/We have read very carefully.

#### **MEMORANDUM:**

- a) HVAC work of ICAI Bhawan Building at Jodhpur
- b) Completion Time: As given in Invitation to Bid.

I/We hereby distinctly and expressly declare and acknowledge before the submission of my/our tender, I/We have carefully followed the instructions and read the specifications and read the schedule of quantities, examined the drawings and clearly understood all the conditions of tender. I/We have also seen the location where the said work is to be done and made such investigations of the work required to enable me/us to complete the work successfully.

Should this tender be accepted in whole or in part, I/We hereby agree to abide by and fulfill all the terms and conditions annexed hereto.

I/We also agree to furnish the required deposits in the form and shape as stipulated in tender documents.

I/We agree to keep the offer open for 90 days from the date of opening of tender.

I/We accept that you are not bound to accept the lowest tender or bound to assign any reason for rejecting my/our tender.

Please find attached herewith the following Demand Drafts:

- 1. Demand Draft No. \_\_\_\_\_ dated \_\_\_\_\_ drawn on \_\_\_\_\_ (Bank) for Rs. \_\_\_\_\_/- against the Earnest Money Deposit; and
- 2. Demand Draft No. \_\_\_\_\_ dated \_\_\_\_\_ drawn on \_\_\_\_\_ (Bank) for Rs. \_\_\_\_\_/- against the Cost of Tender Form.

Please find attached my / our income tax, GST clearance certificates, last audited balance sheet, company profile deed and solvency certificate including work contract registration as requested.

We understand and accept the Payment Terms as stipulated in the General / Special Conditions of tender documents.

Yours faithfully,

Name of the Partner /Officer of company

Signature of Partner / Officer of company

Seal of company

Date:-\_\_\_\_\_.

## **APPENDIX TO THE FORM OF TENDER**

<b>Sl No.</b>	<b>Clause No.</b>	<b>Brief Description of Clause</b>
1.	Name of Work	HVAC work of ICAI Bhawan Building at Jodhpur
		Supply, installation, testing and commissioning of Heating, Ventilation and Air conditioning (HVAC) System for ICAI Bhawan Building Jodhpur
2.	Cost of Tender Document	Rs.2000/- + GST @ 18% (Non-refundable) + Rs. 500/- ( in case requested by post ). Cost inclusive of VAT/ Sales Tax.
3.	Earnest Money Deposit	Earnest Money Deposit of Rs. <u>100000</u> /- (Rupees <u>One Lakh</u> only) shall be paid along with the sealed tender by way of DD only issued by a scheduled Bank in favor of ' <b>Secretary, The Institute of Chartered Accountants of India</b> ' Payable at New Delhi.
4.	Validity of the BID	90 days
5.	Commencement of work	Within 10 days from the date of Letter of Intent/ Work Order or handing over of site, whichever is later.
6.	Time of Completion inclusive of holidays & rainy period.	45 Days
7.	Signing of Contract Agreement	Within 10 days of issue of Letter of Intent/ Work Order
8.	Performance Security Deposit	5 % of the contract amount (to be submitted before signing agreement) in the form of Bank Guarantee in favour of Secretary, ICAI, payable at New Delhi. The validity of which will be up to Defect Liability Period plus 90 Days.
9.	Release of Performance Security	Full performance security (5%) shall be refunded after completion of Defect Liability Period.
10.	Additional Performance Security against low quoted items	Additional Performance Security Amount will be as given in the Tender Documents. This will be released as per provision in the Tender Documents.
11.	Mobilization Advance	10% of the Contract price against submission of BG equivalent to 110% of advance amount, valid till the Completion Period of contract period. It shall be recovered from 1st RA bill onwards @ 10 %.
12.	Retention Money	10% of Contract Value to be deducted from each RA bill. Alternately, Contractor can submit BG for equivalent amount before payment of 1st RA bill.  BG will be valid till completion of contract period plus 90 days.
13.	Release of Retention Money	50 % will be released on virtual completion of work. Balance 50% along with release of final bill.
14.	Insurance	➤ Contractor's All Risk Insurance Policy to inter alia cover the following: <ul style="list-style-type: none"> <li>Contract Price plus 10% for the period of completion of the works + defect liability period.</li> <li>Civil commotion, riots, war, earth quake, terrorist</li> </ul>

		<p>attack and other disturbances.</p> <ul style="list-style-type: none"> <li>• All Plant and machinery owned by the Contractor for the project.</li> <li>• Damage insurance against loss or damage by fire or any other disaster to the works during construction until its completion.</li> </ul> <p>➤ Workmen Compensation Policy to be taken by contractor.</p> <p>➤ Third Party Insurance Policy</p> <p>➤ Any other insurance policy not referred above but mandatory to indemnify ICAI against all types of losses.</p>
15.	Secured Advance on Non-perishable Material	65 % of the material cost (against submission of invoice) or 65% of item rate, whichever is less.
16.	Running Account Bills	Max. One bills per month will be entertained. No bill value should be less than Rs. 30 lacs.
17.	Payment of Running Account Bills	<p>Within 21 (twenty one) days from the date of submission of bill, if found in order</p> <p>All bills along with measurements to be checked by PMC/ Architect. However, if the EMPLOYER feels, they may get it cross-checked.</p>
18.	Final Bill	Contractor to submit the final bill within 30 days of issue of virtual completion certificate. PMC / Architect to certify in next 30 days. EMPLOYER to release payment in next 30 days.
19.	Taxes and Duties	All Government taxes and duties such as GST, Labor cess etc. to be included in the bid price.
20.	Freight, Insurance, Packing, Forwarding, Loading & Unloading	To be included in the bid price.
21.	Quantity Variation	The Quantity mentioned in BOQ can vary up to any extent on either side. Any item can be deleted. Nothing extra shall be paid on this account in the rate quoted.
22.	Escalation	No Escalation shall be payable during the contract period, whatsoever may be the reason.
23.	Electricity & Water	Electricity, drinking water and water for construction to be arranged by CONTRACTOR at his own cost.
24.	Period of Maintenance/ Defect Liability Period	12 (twelve) Months from date of issue of completion certificate by Architect/ PMC.
25.	Liquidation Damages	0.5 % of Contract Value per week of delay, subject to a maximum of 10 % of Contract Value.

- If the rates for altered, substituted or additional work are not specifically provided in the tender, then such rates will be derived from the rates for a similar class of work as specified in the tender.
- If the rates of altered, substituted or additional work cannot be determined in the manner specified above, then the rates of such items of work shall be computed based on the Analysis of Rates as provided in CPWD, Analysis of Rates ( latest edition). Water & Electricity charges even if provided in the analysis will not be allowed since same are deemed to be included in the 15% (Fifteen Percent) to be added towards establishment, overheads, water and electricity, POL charges, contingency and CONTRACTOR profit, tool and tackles etc.

- If the rates for the altered, substituted or additional work cannot be determined in the manner specified above, then the rates for the same shall be decided based on actual cost to the CONTRACTOR at site including labour (for which CONTRACTOR shall produce sufficient proof) plus 15% to towards establishment, overheads, water and electricity, POL charges, contingency and Contractor's profit, tool and tackles etc cover profits & overheads of CONTRACTOR.

(Signature of the Authorized person)      Designation: .....

Date: ..... Name of the firm: .....

(Official Seal) ..... Address: .....

**SECTION - VI**  
**EVALUATION FORMATS**



## **SECTION - VI: EVALUATION FORMATS**

### **TABLE OF CONTENTS**

<b>Clause No</b>	<b>Description</b>	<b>Page No.</b>
1. Form A	Financial Information with supporting document	73
2. Form B	Form of Bankers Certificate from a Scheduled Bank.	73
3. Form C	Details of all works of similar Class completed during the last five years ending last day of the month.	74
4. Form D	Project under execution or awarded	74
5. Form E	Performance Report of work referred to in Forms C and D	75
6. Form F	Structure & Organization	75
7. Form G	Details of Technical & Administrative Personnel to be Employed for the work.	76
8. Form I	Details of Statement of Arbitration & Disputes	77

## SECTION VI - EVALUATION FORMATS

### FORM 'A' FINANCIAL INFORMATION

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

Year	Profit/ Loss	Turnover	Remarks
2014			
2015			
2016			
2017			
2018			

II. Financial arrangements for carrying out the proposed work:

Signature of Chartered Accountant with Seal

Signature of Tenderer(s).

### FORM "B"

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

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

(Rupees.....)

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

(Signature)  
For the Bank

#### NOTE

- (1) Bankers certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.
- (2) In case of partnership firm, certificate should include names of all partners as recorded with the bank.

**FORM 'C'**  
**DETAILS OF ALL WORKS OF SIMILAR CLASS COMPLETED DURING THE**  
**LAST FIVE YEARS ENDING LAST DAY OF THE MONTH .....**

S. No.	Name of work/project and location	Owner or sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation/arbitration cases pending/ in progress with details*	Name and address/ telephone number of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10

\* Indicate gross amount claimed and amount awarded by the Arbitrator.

Signature of Bidder(s)

**FORM 'D'**  
**PROJECTS UNDER EXECUTION OR AWARDED**

S.No.	Name of work/project and location	Owner or sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	Upto date percentage progress of work	Slow Progress if any and reasons thereof	Name and address/ telephone number of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10

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

Signature of Bidder(s)

### FORM 'E'

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

1. Name of work/project & location
2. Agreement no.
3. Estimated cost
4. Tendered cost
5. Date of start
6. Date of completion
  - (i) Stipulated date of completion
  - (ii) Actual date of completion
7. Amount of compensation levied for delayed completion, if any
8. Amount of reduced rate items, if any
9. Performance Report
  - (1) Quality of work Very Good/Good/Fair/Poor
  - (2) Financial soundness Very Good/Good/Fair/Poor
  - (3) Technical Proficiency Very Good/Good/Fair/Poor
  - (4) Resourcefulness Very Good/Good/Fair/Poor
  - (5) General Behaviour Very Good/Good/Fair/Poor

Dated:

Executive Engineer or Equivalent

### FORM "F"

#### STRUCTURE & ORGANISATION

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

**Organisation/Place of registration**

**Registration No.**

- 1.
- 2.
- 3.
5. Names and titles of Directors & Officers with designation to be concerned with this work.
6. Designation of individuals authorized to act for the organization
7. Was the bidder ever required to suspend construction for a period of more than six months continuously after he commenced the construction? If so, give the name of the project and reasons of suspension of work.
8. Has the bidder, or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
9. Has the bidder, or any constituent partner in case of partnership firm, ever been debarred/black listed for tendering in any organization at any time? If so, give details

10. Has the bidder, or any constituent partner in case of partnership firm, ever been convicted by the court of law? If so, give details.
11. In which field of Civil Engineering construction the bidder has specialization and interest?
12. Any other information considered necessary but not included above.

Signature of Bidder(s)

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

S.No.	Designation	Total number	Number available for this work	Name	Qualifications	Professional experience and details of work carried out	How these would be involved in this work	Remarks
1	2	3	4	5	6	7	8	9

Signature of Bidder(s)

## FORM "H"

### Statement of Arbitration and Disputes

S.No.	Name of work /project and location	Name and address/telephone number of officer to whom reference may be made	Name of client	Cost of work in crores	Nature of dispute	Award of Arbitration	Remarks

Signature of Tenderer(s)

**SECTION - VII**  
**FORM OF AGREEMENT**

## SECTION - VII

### ARTICLES OF AGREEMENT

This Agreement is made on this the \_\_\_\_ day of \_\_\_\_\_ 2018 at Jodhpur

BETWEEN

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA, having its Head Office at 'ICAI Bhawan', P.O. Box No. 7100, IndraprasthaMarg, New Delhi – 110002, represented by its authorized officer \_\_\_\_\_, (HEREINAFTER referred to as 'ICAI') which expression shall, wherever the context so admits, mean and include its successors, assignees, etc. of the ONE PART.

AND

\_\_\_\_\_, represented by its authorized signatory \_\_\_\_\_, (HEREINAFTER referred to as "THE CONTRACTOR") which expression shall, wherever the context so admits, mean and include its partners, successors, representatives, assignees, executors, administrators etc. of the OTHER PART

WHEREAS

- A. The ICAI is desirous that **HVAC work of ICAI Bhawan Building at Jodhpur** in respect of the construction of ICAI Bhawan, Jodhpur at its site at Chopasani, Jodhpur, Rajasthan (hereinafter referred to as 'Contract Work') should be executed as mentioned, enumerated or referred to in the tender including Press Notice Inviting Tender, General Conditions of the Contract, Special Conditions of the contract, Specifications, Drawings, Plans, Time Schedule of completion of jobs, Schedule of Quantities and Rates, Agreed Variations, other documents and has called for Tender.
- B. The Contractor has inspected the site and surroundings of the work specified in the tender documents and has satisfied himself by careful examination before submitting his tender as to, the form and nature of the site and local conditions, the quantities, nature and magnitude of the work, the availability of labor and materials necessary for the execution of work, the means of access to site, the supply of power and water thereto and the accommodation he may require and has made local and independent enquiries and obtained complete information as to the matters and things referred to or implied in the tender documents or having any connection therewith, and has considered the nature and extent of all the probable and possible situations, delays, hindrances or interferences to or with the execution and completion of the work to be carried out under the contract, and has examined and considered all other matters, conditions and things and probable and possible contingencies, and generally all matters incidental thereto and ancillary thereof affecting the execution and completion of the contract work and which might have influenced him in making his tender and has offered to execute the contract work.
- C. The tender documents including the ICAI's Press Notice Inviting Tender, Instruction to bidder, General conditions of contract, Special Conditions of Contract, Schedule of Quantities and Rates, General obligations, Specifications, Drawings, Plan, Time Schedule for completion of work, Letter of Acceptance of Tender, Letter of Intent and any Statement of Agreed Variations and all or any appendices, copies of which hereto annexed along with such amendments as may be confirmed or instructions as may be issued from time to time by the ICAI shall form part of the contract though separately set out and are included in the expression 'Contract' wherever herein used.
- D. The tender documents shall be taken as complementary and mutually explanatory of one another, but in the case of ambiguities and discrepancies shall take precedence in the order set out below:
  - 1. This Form of Agreement
  - 2. The Letter of Intent/ Work Order
  - 3. The said bid and Appendix
  - 4. The Bill of Quantities
  - 5. The Technical Specifications
  - 6. The Tender Drawings



7. Special Conditions of Contract
8. General Conditions of Contract
9. Form of Bank Guarantees

**AND WHEREAS:**

The ICAI accepted the tender of the Contractor for executing the contract work(s), conveyed vide letter no \_\_\_\_\_, dated \_\_\_\_\_, at the rate(s) stated in the Schedule of quantities for the work and accepted by the ICAI (hereinafter referred to as the 'Schedule of Rates') upon the terms and subject to the conditions of the contract.

**NOW THIS AGREEMENT WITNESSTH AND IT IS HEREBY AGREED AND DECLARED AS FOLLOWS:**

1. That in consideration of the payment of Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ only), hereinafter referred to as the 'Contract Price', to be made by the ICAI to the Contractor for the work to be executed by him, the Contractor hereby covenants with the ICAI that the Contractor shall and will duly provide, execute and complete and remedy any defects therein and shall do and perform all other acts and things in conformity in all respects with the provisions of the Contract or described therein or which are to be implied therefrom or shall be reasonably necessary for the completion of the said works and at the said times and in the manner and subject to the terms and conditions or stipulations mentioned in the contract.
2. That the contract work shall be completed within 45 days from the date of handing over the site to the Contractor or from the 10<sup>th</sup> day of the receipt by the Contractor, the work order issued, whichever is earlier, according to the rate of progress indicated in the programme chart enclosed to the work order, or within such period specifically agreed to by the ICAI's Architect M/s \_\_\_\_\_ in writing towards extension of time in consultation with the ICAI.
3. That the Contractor has furnished performance Bank Guarantee No. \_\_\_\_\_ dated \_\_\_\_\_ for Rs. \_\_\_\_\_/- (an amount equal to 5 % of the contract value), issued by \_\_\_\_\_ (bank) with validity till \_\_\_\_\_ in favour of Secretary, ICAI, payable at Delhi, for due performance of his obligation under this contract.  
That the Contractor has further agreed that towards Retention Money, an amount equal to 10% of the running bill will be deducted from each progressive bill. It is further agreed between the parties that 50% of this Retention Money shall be paid back by ICAI within 30 days of issuing of certificate of completion by the Architect and balance of the Retention money shall be released along with final bill. No interest will be paid on retention money.  
  
The Performance Security Deposit will be released upon expiry of Defect Liability Period of 12 months which will be counted from the date of virtual completion of work or two months from the date of latest rectification of work, whichever is later.
4. That in consideration of the due provisions, execution and completion of the contract work, the ICAI does hereby agree with the Contractor that the ICAI will pay to Contractor the respective amounts for the work actually done by him and approved by the ICAI at the Scheduled Rates under provision of the contract, such payment to be made at such time in such manner as prescribed for in the contract.
5. That it is specifically and distinctly understood and agreed between the ICAI and the Contractor that the Contractor shall have no right, title or interest in the site made available by the ICAI for execution of the works or in the building, structures or works executed on the said site by the contractor or in the goods, articles, materials, etc. brought on the said site (unless the same specifically belongs to the Contractor) and the Contractor shall not have or deemed to have any lien whatsoever or charge for unpaid bills and shall not be entitled to assume or retain possession or control of the site or structures and the ICAI shall have an absolute and unfettered right to take full possession of site and to remove the Contractor, their servants, agents and materials belonging to the Contractor and lying on the site.
6. That it is further specifically and distinctly understood and agreed between the ICAI and the Contractor that in any event, the ICAI shall owe no responsibility or liability of any kind towards any person or persons engaged by the Contractor for carrying the contract work(s) and the Contractor alone shall be responsible and liable to any such person or persons so engaged.

7. RESERVATION CLAUSE:

That the ICAI reserves the right to add or omit any item(s) of the contract work, exercise control on quality of work, check of measurement, payment certificates, variation(s) arising in view of change of scope of work and approval of extra substituted items. The decision of the ICAI shall be final and binding in regard thereto and the Contractor shall not be entitled to claim any compensation other than the admissible rates provide for in the contract or otherwise mutually agreed upon for such additions, alternations, modifications, variation omissions etc.

8. ASSIGNMENT:

The contractor shall not without the prior written consent of the ICAI assign the contract works or any part thereof. PROVIDED ALWAYS that any consent given by the ICAI for assigning contract works or any part thereof will not absolve the Contractor from the full and entire responsibility of its obligations under this contract and/or instructions issued by the ICAI..

9. LIABILITY UNDER EMPLOYEES STATE INSURANCE ACT, 1948 AND EMPLOYEES PROVIDENT FUND AND MISCELLANEOUS PROVISIONS ACT, 1952 AND GRATUITY/PENSION OR ANY OTHER LABOUR LAWS:

Whenever the ICAI is required to pay contributions in respect of the workmen or employees engaged or employed by or through the Contractor, his Sub-contractor or permitted assigns, under the Employees State Insurance Act, 1948 and P.F. Act, 1952 or the Rules and Regulations, made thereunder either as the principal employer or otherwise, the ICAI shall be entitled to recover from the Contractor such amounts from dues payable or becomes payable to the Contractor. The Contractor will discharge its responsibilities under the Employees State Insurance Act, 1948, PF Act, 1952 as an immediate employer in respect of employees engaged or employed by the Contractor or by the Sub-contractor for the execution of work or for any reason whatsoever. The Contractor shall submit to the owner at periodic intervals the evidence for discharge of statutory contribution under ESI Act and PF Act and other statutory liabilities for which the Contractor or Sub-contractor is liable. The Contractor acknowledges the right of the ICAI to recover the amount of the contribution paid by the latter in the first instance in respect of the employees employed by or through the Contractor or by his Sub-contractor or permitted assignees as well as the employees contribution, if any, either by the deduction from any amount payable to him by the owner under any contract or as a debt payable by the Contractor to the owner.

10. OTHER STATUTORY OBLIGATIONS:

In the event the ICAI is called upon to make any payment to meet any statutory obligation concerning the contract works, such amount shall be recovered from the Contractor and without prejudice to any other mode of recovery, the ICAI may deduct the same from any amount payable to the contractor by the ICAI under any contract. The Contractor shall submit written confirmation together with evidence to the ICAI at periodical intervals to the effects that all statutory obligations have been duly complied with and the liabilities having arisen thereunder have been duly discharged as required.

11. STATUTORY REQUIREMENTS:

The Contractor shall conform to the provisions of Acts of Parliament or State Legislatures and to and by-laws, rules, orders or notifications of the Government, Municipal or Local Authority for the time being in force affecting the works undertaken by it and will give all necessary notices to and obtain requisite sanction undertaken by it and will give all necessary notices to and obtain requisite sanction and permits of and from the Municipal and any other authority in respect of the said works, the materials to be used therein and generally will comply with building and other regulations of such authorities

The Contractor undertakes to ensure due and complete compliance with all laws, regulations, rules, etc. whether of the Central Government or the State Government or of any other competent authority applicable to the workmen employed or whose services are otherwise availed of by the Contractor whether in connection with the construction work at the site or otherwise. The ICAI shall have the right to inspect the records maintained by the Contractor concerning such workmen from time to time and the Contractor shall whenever required by the ICAI produce such records as the ICAI may call upon the Contractor to produce for the ICAI's inspection in order to ascertain whether or not the requirements of

all such laws, regulations, rules, etc. have been complied with by the Contractor. In the event of any contravention of such laws, regulations, rules, etc. coming to light whether as a result of such inspection or otherwise to effect such compliance within such time as the ICAI may prescribe in that behalf and in the event of the Contractor failing to effect such compliance within the time prescribed by the owner then the ICAI shall without prejudice to his rights be entitled to withhold from the amount payable to the Contractor any amount payable to the workmen under any such laws, regulations and rules to make payment thereof to the workmen. The ICAI shall also have in that event the right to terminate the contract with immediate effect and to exercise powers reserved to the ICAI under the contract as a result of termination.

12. INDEMNITY:

That the Contractor shall keep the ICAI indemnified against all actions, suits and proceedings and all and any costs, charges, expenses, loss or damage incurred, suffered, caused to/sustained by the ICAI by reason of any default or breach or lapse or negligence or non-observance or non-performance or any non-payment by/on behalf of the Contractor.

13. LIQUIDATED DAMAGES:

If the CONTRACTOR fails to complete the works by the due date or within extended time, the Contractor shall be liable to pay Liquidated Damages to the EMPLOYER at the rate of 0.5 % of the contract value for every week of delay subject to a maximum of 10% of the contract value. In addition to Liquidated Damages, in case the delay is beyond 3 months, it shall render the Retention Money to be forfeited and in addition a penalty of Rs. 5 Lacs (Rupees Five Lacs Only) will be payable by the CONTRACTOR and the Contract will come to end and the EMPLOYER shall be at liberty to withdraw the work and get it executed from any other agency at Contractor's risk and cost and the site shall be vacated by Contractor immediately.

14. TERMINATION:

14.1 The EMPLOYER may, without prejudice to any other right or remedy, terminate the contract forthwith in part or whole in any of the following cases:

If Contractor:

- (i) Being an individual, or if a firm, any partner thereof at any time be adjudged insolvent or having received orders for administration of his estate made against him or takes any proceedings for liquidation or composition under any Insolvency Act for the time being in force or makes any conveyance or assignment of his effects or composition or arrangement for the benefits of his creditor or purport so to do or if any application be made under Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be granted by him for and behalf of his creditors; or
- (ii) Being a company passes a resolution or the court makes an order for the liquidation of its affairs or a receiver or manager on behalf of the debenture holders is appointed or circumstances arises which entitle the court or debenture holders to appoint a receiver or Manager; or
- (iii) Assigns, transfers or subjects or attempts to assigns transfer or sublet any portion of the works without the prior written approval of the EMPLOYER; or
- (iv) Makes defaults in commencing the work within a reasonable time from the date of the handing over of the site and continue in that state after reasonable notice from the Architect and or EMPLOYER.
- (v) In the opinion of the EMPLOYER/Architect at any time whether before or after the date or extended date for completion makes defaults in proceeding with the works with due diligence and continues in that state after reasonable notice from the Architect and or EMPLOYER or delays the project.
- (vi) Fails to comply with any of the terms and conditions of the contract after reasonable notice in writing with directions properly issued there under.

(vii)Fails to complete the works, work order and items of work within individual dates for completion and clear the site on or before the date of completion.

#### 15. FORCE MAJEURE

Time shall be the essence of the contract in this regard subject however to 'Force Majure' For purpose of this clause, 'Force Majeure' means an event beyond the control of the contractor and not involving the contractor's fault or negligence and not foreseeable. Such events may include, but are not restricted to major changes in the present building rules, act of God, earthquakes, tempest and flood. If a Force Majeure situation arises, the Contractor shall promptly notify the ICAI in writing of such conditions and the cause thereof. Unless otherwise directed by the ICAI in writing, the Contractor shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

#### 16. ARBITRATION:

In the event of any dispute in the interpretation of the terms and conditions of this contract/ agreement or difference of opinion between the parties or any point in the order / contract arising out of or in connection with the agreement/ accepted order/ contract or with regard to performance of any obligation hereunder by either party, the parties hereto shall use their best efforts to settle such disputes or difference of opinion amicably by mutual negotiations. In case no agreement is reached, either party may forthwith give to the other, a notice in writing of the existence of such question, dispute or difference of opinion and the same shall be referred to the sole arbitrator to be appointed mutually by the parties.

The Arbitration and Conciliation Act, 1996 and any statutory modification or re-enactment thereof, shall apply to these arbitration proceedings. The seat of Arbitration will be at New Delhi and the language of the arbitration proceeding and that of all documents and communications between the parties shall be in English. The decision of the arbitrator shall be final and binding upon both the parties. All arbitration awards shall be in writing and shall state the reasons for the award. The expenses of the arbitrator as determined by the arbitrator shall be shared equally by the parties. However, the expenses incurred by each party in connection with the preparation, presentation shall be borne by the party itself.

#### 17. JURISDICTION

Subject to the arbitration agreement contained herein, any dispute between the parties arising out of this Agreement shall be subject to the jurisdiction of the Courts at New Delhi only.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE HERE-INTO SET THEIR RESPECTIVE HANDS AND SEALS IN THE DAY AND THE YEAR FIRST ABOVE WRITTEN.

Signed and delivered for and on behalf of  
(ICAI)

Signature and delivered for and on behalf of  
the Contractor  
(CONTRACTOR)

Date:

Place:

IN PRESENCE OF TWO WITNESSES

1. SIGNATURE  
NAME  
ADDRESS

2. SIGNATURE  
NAME  
ADDRESS

**SECTION - VIII**  
**ACCEPTABLE FORM OF BANK GUARANTEES**

## **SECTION - VIII: ACCEPTABLE FORM OF BANK GUARANTEES**

### **TABLE OF CONTENTS**

<b>APPENDIX</b>	<b>FORM</b>	<b>PAGE NO.</b>
APPENDIX – 1	Bank Guarantee for Earnest Money Deposit-Sample	86
APPENDIX - 2	Bank Guarantee for Mobilization Advance	87-88
APPENDIX – 3	Bank Guarantee for Performance Guarantee	89-90
APPENDIX - 5	Deviation Schedule & Declaration	91

## APPENDIX - 1

### BANK GUARANTEE IN LIEU OF EARNEST MONEY DEPOSIT

To  
The Secretary  
Institute of Chartered Accountants of India  
IndraprasthaMarg  
New Delhi – 110 002

Bank Guarantee no.....

In consideration of The Institute of Chartered Accountants of India, a statutory body having its Head Office at 'ICAI Bhawan' IndraprasthaMarg, New Delhi – 110 002 (hereinafter referred to as "ICAI/Employer" which expression shall, wherever the context so admits, mean and includes its successors and assignees),

Whereas Employer have issued bid documents for HVAC work of ICAI Bhawan Building at Jodhpur \_\_\_\_\_ having their registered office at \_\_\_\_\_ (hereinafter called the Bidder).

And whereas under the terms and conditions of the said bid documents, the Bidder is required and has undertaken to furnish a Bank Guarantee of Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ only) as Earnest Money Deposit as contained in the said tender document.

We \_\_\_\_\_, having our registered office at \_\_\_\_\_ and branch office at \_\_\_\_\_ (hereinafter called "the Bank") hereby

unconditionally and irrevocably undertake to the Employer immediately upon receipt of the first written demand such amount or amounts as may be demanded by the Employer from us under this Guarantee not exceeding a sum of Rs. ----- (Rupees ----- only) in aggregate without demur or reference to the Bidder and agree that the Employer's demand shall be conclusive, final and binding on the Bank under all circumstances.

We hereby affirm that we are the Guarantor and responsible to you on behalf of the Bidder up to an aggregate sum of Rs. -----/- (Rupees -----only) such sum or sums being payable in Indian currency and we undertake to pay on your first written demand and without demur or reference to the bidder and / or condition, and sum or sums within the aggregate limit of Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ only)

We agree that no change or addition to or modification of the terms of the tender or of the works to be performed there under or of any of the tender documents which may be made between you and the bidder shall in any way release the Bank from any liability under this Guarantee, and we hereby waive notice of any such change, addition or modification.

We further agree that the Employer shall have the right to invoke a claim up to the last date of the validity of this Bank Guarantee and that the Employer shall remain the sole judge of the validity and amount of the claim and the Bank agrees not to contest any claim.

We further agree that any change in the Bidder's constitution or their liquidation or dissolution shall not discharge the Bank's liability under this Guarantee.

We further agree that the right of the Employer to make a claim shall not be vitiated by any dispute raised or pending with any Statutory Authority, arbitrator, tribunal or any other body or person.

It is agreed that the Employer's claim shall remain valid even if the employer has not issued a prior notice or has not proceeded against a Contractor before making such claim.

This Guarantee is confirmed and irrevocable and shall remain valid up to and including \_\_\_\_\_ and shall remain valid up to such extended period which may be mutually agreed to.

Unless a demand or claim under this Guarantee is made on the Bank in writing on or before \_\_\_\_\_ the Bank shall be discharged from all liability under this Guarantee.

For and on behalf of the Bank

Dated.....day of .....2018.

## APPENDIX -2

### PROFORMA FOR BANK GUARANTEE FOR MOBILISATION ADVANCE

To  
Secretary  
The Institute of Chartered Accountants of India  
Head Office, ICAI Bhawan  
IndraprasthaMarg  
NEW DELHI -2

Dear Sir,

1. In consideration of the of The Institute of Chartered Accountants of India, a statutory body having its Head Office at 'ICAI Bhawan' IndraprasthaMarg, New Delhi-110002 (hereinafter called 'ICAI/OWNER/Employer' which expression shall includes its successors and assigns) having agreed under the terms and conditions of Contract No.....dated...(hereinafter referred to as the said Contract) made between ICAI and.....hereinafter called the Contractor) which expression shall include its successors and assigns to make at the request of the Contractor a lump sum advance of Rs.....for utilizing it only for the purposes of the said Contract on his furnishing a guarantee acceptable to ICAI.
2. We, the.....Bank (hereinafter referred to as 'the said Bank) a Company under the Companies Act 1956 and having our registered office at.....do hereby guarantee the recovery of the said advance and interest thereon as provided according to the terms and conditions of the said Contract. If the Contractor fails to utilize the said advance for the purposes of the said Contract and/or the said advance together with interest thereon as aforesaid is not fully recovered by ICAI, we, .....Bank hereby unconditionally and irrevocably undertake to pay the ICAI on demand and without demur or protest to the extent of the said sum of Rs.....any claim made by ICAI on us against non-utilization / mis utilization of the said advance and/or by reason of ICAI not being able to recover in full the sum of Rs..... as aforesaid.
3. We.....Bank further agree that ICAI shall be the sole judge of and as to whether the said Contractor has utilized or not utilized the said advance or any part thereof for the purposes of the said Contract and/or as to whether the advance or any part thereof with interest has been recovered or not and the finding of the ICAI in this regard shall be conclusive, final and binding on us.
4. We, the said Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and till the said advance has been fully recovered and its claims satisfied or discharged and till ICAI certifies that the said advance with interest has been fully recovered from the Contractor.
5. ICAI shall have the fullest liberty without affecting in any way the liability to the said Bank under this guarantee or indemnity from time to time to vary any of the terms and conditions of the said Contract, or the advance or to extend time of performance by the said Contractor or to postpone for any time and from time to time any powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of the terms and conditions governing the said Contract or securities available to ICAI and the said Bank shall not be released from its liability under these presents by any exercise by ICAI of the liberty with reference to the matters aforesaid or by reason of time being given to the said Contractor or any other forbearance, act or omission on the part of the ICAI or any indulgence by ICAI to the said Contractor or of any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of so releasing the said Bank from its such liability.
6. The obligations of the Bank in terms hereof shall not be anyway affected or suspended by reasons of any dispute or disputes having been raised by the Contractor (whether or not pending before any arbitrator, Tribunal or court) or any denial of liability by the Contractor.



7. The amount stated in any notice of demand addressed by ICAI to Bank or to the Contractor, shall be conclusive evidence of the amount so liable to be paid to ICAI by the Bank.
8. This guarantee/undertaking shall be in addition to any other guarantee or security whatsoever that ICAI may now or any time may have in relation to the Contractor's obligations or liabilities under and/or in connection with the said Contract, and ICAI shall have full authority to take recourse to or enforce this security in preference to any other guarantee or security which ICAI may have or obtain and there shall be no forbearance on the part of ICAI in enforcing or requiring enforcement of any other security and shall not have the effect of releasing the Bank from its full liability hereunder.
9. We, ..... the said Bank further undertake that we shall pay forthwith the amount stated in the notice of demand without demur and protest notwithstanding any dispute/difference pending between the parties before the arbitrator Tribunal or Court and/or dispute is being referred to arbitrator.
10. We, the said Bank undertake not to revoke this Guarantee during its currency except with the consent of ICAI in writing and agree that any change in the Constitution of the said Contractor or the said Bank shall not discharge our liability hereunder.
11. This guarantee/undertaking shall be a continuing guarantee/undertaking and shall remain valid and irrevocable for all claims of ICAI and liabilities of the Contractor arising up to and until midnight of.....

For and on behalf of the Bank

Dated.....day of .....2018.

**APPENDIX – 3**  
**BANK GUARANTEE FOR PERFORMANCE**  
[Clause 1.8 of the GCC]

To  
The Secretary  
Institute of Chartered Accountants of India  
IndraprasthaMarg  
**New Delhi – 110 002**

Bank Guarantee No.....

In consideration of the Institute of Chartered Accountants of India, a statutory body established under the Chartered Accountants Act, 1949, having its Head Office at 'ICAI Bhawan' IndraprasthaMarg, New Delhi – 110 002 (hereinafter referred to as "ICAI") having agreed, under the terms and conditions of clause \_\_\_\_\_ of General Conditions of Contract (GCC) of Tender Ref. \_\_\_\_\_ dated \_\_\_\_\_, and Agreement dated \_\_\_\_\_ made between M/s \_\_\_\_\_, a \_\_\_\_\_ having its registered office at \_\_\_\_\_ (hereinafter referred to as "the Contractor") and the ICAI in connection with the work **HVAC work of ICAI Bhawan Building at Jodhpur** to accept irrevocable Bank Guarantee for Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ only) from a Nationalized Bank as Security Deposit to be furnished by the Contractor for due performance of the terms and conditions contained in the said Tender, Agreement, we \_\_\_\_\_ bank and having head office at \_\_\_\_\_ (hereinafter referred to as "the Bank") on the request of the contractor do hereby covenant and agree with the ICAI as follows:-

1. We, the Bank do hereby guarantee and undertake to pay the ICAI, on demand without proof and condition any or all monies payable by the contractor to the extent of Rs \_\_\_\_\_/- (Rupees \_\_\_\_\_ only) at any time upto \_\_\_\_\_ (date) without demur, reservations, contest, recourse or protest and or without any reference to the contractor, in case the contractor fails to perform the said agreement as aforesaid. Any such demand made by the ICAI on the Bank shall be conclusive and binding notwithstanding any difference or dispute between the ICAI and the contractor pending before any Court, Tribunal, Arbitrator or any other authority
2. Notwithstanding anything contained herein, ICAI's decision in regard to the effect whether the contractor has made any such default and amount to which the ICAI is entitled on account of such default will be conclusive, final and binding on us and we undertake not to question ICAI's decision and not ask to establish ICAI's claim under this guarantee and we shall pay the demanded amount without any objection.
3. We undertake to pay to the ICAI any money so demanded notwithstanding any dispute or disputes raised by the Contractor in such or any proceeding pending before any court or Tribunal relating thereto and our liability under this present being absolute and unequivocal. The payment so made by us under this guarantee shall be a valid discharge of our liability for payment thereunder.
4. The Bank also agrees that the ICAI at its option shall be entitled to enforce this guarantee against the Bank as principal debtor without proceeding against the contractor and notwithstanding any security or other guarantee that ICAI may have in relation to contractor's liabilities.
5. We further agree that the ICAI shall have full liberty without our consent and without affecting in any manner our obligations herein under to vary any of the terms and condition of the said Agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the ICAI against the said Contractor and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor or for any forbearance, or any indulgence of the said Contractor or by any other act or matter or thing whatsoever which under the law relating to sureties would, but for these provisions have effect of so relieving us.
6. The guarantee shall not be discharged due to the change in the constitution of the Bank or the Contractor.
7. We the Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the ICAI in writing unless discharged by the ICAI.

8. This guarantee shall hold and remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the ICAI under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged. Unless a demand or claim under this guarantee is made on us in writing on or before ..... we shall be discharged from all liability under this guarantee thereafter.

Date the .....day of .....2018

For and on behalf of the Bank

.....  
Signature

.....  
Date

.....  
Name

.....  
Designation

## Appendix- 5

### DEVIATION SCHEDULE & DECLARATION

#### **1.0     DEVIATION SCHEDULE:-**

Tender Requirement	Offered
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____

#### **2.0     DECLARATION:-**

The undersigned is a duly authorized representative of the Bidder & certifies that all the furnished data & information pertaining to this offer are correct & are true representation of the equipment & material offered by our offer no. \_\_\_\_\_, dated \_\_\_\_\_.

The undersigned confirms that the offered plant has been designed to achieve the required performance as per the desired parameter & guarantee to achieve the same.

**Signature** : \_\_\_\_\_  
**Name** : \_\_\_\_\_  
**Designation:** \_\_\_\_\_  
**Date** : \_\_\_\_\_

**SEAL OF THE COMPANY**

## **SECTION IX : SYSTEM DESCRIPTION & BASIS OF DESIGN FOR HVAC SYSTEM**

### **A. INTRODUCTION:**

AC requirement on Ground Floor & First Floor area shall be Air-conditioned by VRV/VRF type air-conditioning system. Various capacities of Indoor Units will be used for Air-conditioning of the AC areas.

Each outdoor unit of VRF system shall consist of air-cooled condenser with compressor, condenser coil, condenser fans etc. and shall be located on the terrace floor. Each of such outdoor unit shall be connected to number of various capacity indoor units located on each floor.

VRF refrigeration unit shall be operated on R410A refrigerant and shall be complete with micro processor based controls for all safeties and refrigeration controls.

Each indoor AC unit of VRF system shall have cord less remote/Centralize Controller for operating each indoor unit independently & at the desired inside conditions.

### **HVAC SYSTEM**

#### **DESIGN BRIEF FOR AC SYSTEM DESIGN PROJECT OBJECTIVES**

The project objective include synergy efficient design, state of the art technology ,fast track installation and compliance to all statutory regulations.

#### **1. BASIS OF DESIGN**

##### **a. Site Location –Jodhpur.**

#### **Outdoor Design Conditions:**

Based on the weather data published by Indian Society of Heating Refrigeration & Air-conditioning Engineers (ISHRAE), the outdoor design conditions for various seasons have been considered as follows:

#### **Ambient Conditions – Jodhpur**

NO	Season	DB Temp (°C)	WB Temp (°C)	Rh (%)
1	Summer	45.0	25.6	24

#### **Indoor Design Conditions:**

No	Area	Inside Temp DB (°C)	Inside Rh (%)
1	All AC Area	24+/- 2	No Control

#### **Exposed roof/walls/Glass:**

- Exposed roof & wall / panels are considered as pre-insulated type. For roof (Transmission Coefficient) U value = 0.11 & walls 0.35 Btu/hr) (Sq.ft.) (Deg F temp diff).
- Exposed Glass are considered as U value = 0.56 (Btu/hr) (Sq.ft.) (Deg F temp diff).

## TECHNICAL SPECIFICATION

### A) EQUIPMENT:

#### **VARIABLE REFRIGERANT FLOW TYPE SYSTEM(VRF/VRV SYSTEM)**

The system selected should be modular system, with number of indoors connected to centrally located outdoor units, as per detail designing given in the tender. The outdoor units for all the system shall be air cooled type and mounted on terrace of the building. Indoor units in various areas shall be as per enclosed drawings/ Bill of Quantities.

All the VRF air conditioners shall be fully factory assembled, wired, internally piped & tested. The outdoor unit shall be pre charged with first charge of **R410A** refrigerant. Additional charge shall be added as per refrigerant piping at site. All the units shall be suitable for operation with 400 V  $\pm$  10%, 50 Hz  $\pm$  3%, 3 Phase supply for outdoor units & 220 V  $\pm$  10%, 50 Hz  $\pm$  3%, 1 Phase supply for indoor units.

The VRV system shall provide stable, trouble free & safe operation, with flexibility of operating desired indoor units. The outdoor units must be capable of delivering exact capacity proportional to the number of indoor units switched on & the heat Load in the air conditioned area. The proportional operation shall be achieved by varying speed of the compressor in the outdoor units.

The operation of the VRF system shall be through independent wired/ wireless remote controllers as specified. The entire system shall be integrated with intelligent building management system of leading vendors like Honeywell / Johnson Controls / Siemens etc, through BAC Net Gateway. The detailing of operation required through BMS system are detailed under specifications of BMS system.

The system shall be multi-split system with all **inverter driven scroll compressor** for application with **R410A refrigerant** and shall be composed of ceiling type indoor units / 4-way cassette type indoor units / ductable units / wall type indoor unit / AHUs unit and an outdoor unit as specified in tender drawings & Bill of Quantities, with a distributed refrigeration cycle, electrical components and enclosing cabinets. Both indoor units and outdoor unit shall be properly assembled, internally piped and wired, thoroughly tested and charged with refrigerant at factory and shall be topped up at site after erection.

Additional charge of refrigerant should be supported by engineering calculation. Each refrigeration cycle shall be equipped with scroll compressor, a solenoid valve, a heat exchanger, an accumulator, and a 4-way valve and flare connection parts.

#### **SPECIFICATION OF OUTDOOR UNITS:**

Out doors units of the VRF system shall be compact air cooled type.

All the compressors of the outdoor units must be hermetically sealed scroll type. Each module of outdoor unit must have separate minimum 1 No. inverter compressor, suitable to operate at heat Load proportional to indoor requirement.

The outdoor units must be suitable for up to 150 m refrigerant piping between outdoor unit & the farthest indoor units, total piping of 300 m for all the indoor units. Allowable level difference between outdoor unit & indoor units shall be 50 m in case of outdoor unit on top & 40 m in case of outdoor unit at bottom. Allowable level difference between various indoor units connected to one out door unit shall be up to 15 m.

Back up operation, in case of failure of one of the compressors of outdoor unit, for single module outdoor units or failure of one of the modules in case of multiple module outdoor units shall be possible. The VRF outdoor unit shall be supplying at least 33% of back up operation, of the full Load capacity.

The outdoor unit shall employ system of equal run time for all the compressors, inverter or on/ off type, within each outdoor unit – Single Module or Multi Module.

The outdoor units shall be suitable to operate within an ambient temperature range of – 5 Deg C to 45 Deg C, in cooling mode & – 20 Deg C to 15 Deg C in heating mode.

Air cooled condenser shall have Axial Flow, upward throw fan, directly coupled to fan motors with minimum IP 55 protection. The outdoor unit condenser fan shall be able to develop external static pressure up to 6 mm of water column.

The entire operation of outdoor units shall be through independent remotes of indoor units. No separate Start/ Stop function shall be required.

Starter for the Outdoor Unit compressor shall “Direct on Line” type. Inverter compressor of the unit shall start first & at the minimum frequency, to reduce the inrush current during starting. Refrigerant control in the outdoor unit shall be through Electronic Expansion Valve. Complete refrigerant circuit, oil balancing/ equalizing circuit shall be factory assembled & tested.

The compressor(s) shall be hermetically sealed scroll and designed for continuous operation even at high ambient. All condensing unit should have a combination of fixed speed and invertors driven scroll compressor. All invertors driven scroll compressor should have protection for electronic circuits and elimination of electromagnetic sound, which may interfere with the control function of the machine. The unit shall have safety device such as high-pressure switch, fan motor safety thermostat, invertors over Load protector, fusible plugs and fuses for trouble free operation of the unit. The condenser shall be air cooled, made of Cu. tubes with extended Aluminum fins. The condenser coil shall be multi-pass, cross-finned tube type, equipped with highly efficient Aluminum fins, mechanically bonded to oxygen

free copper tubes. The coil shall be cleaned, dehydrated and tested for leakage at the factory. The Cabinets shall be fabricated out of heavy gauge steel, properly formed for close fit and structural rigidity. All access panels shall be so constructed as to be quickly and easily removable. All outside surface shall be finished with powder coating for protection against humid weather. The condenser fans shall be stepped control depending on no. of compressor operational & ambient condition, driven and designed to achieve low condensing temperatures & operate continuously and silently. All outdoor units shall have BMS compatible communicable controller.

Noise level of outdoor units shall not exceed 63 dB (A) at a distance of 1.5 m from the unit.

Outdoor units shall be complete with following safety devices:

- High pressure switch
- Fan driver over Load protector
- Over current relay
- Inverter Over Load Protector
- Fusible Plug

Unit shall be supplied with

- Installation manual
- Operation Manual
- Connection Pipes
- Clamps

Units shall be available in configuration 4 HP, 6 HP up to 64 HP, within increments of 2 HP as specified in tender drawings & Bill of Quantities.

## **SPECIFICATIONS FOR INDOOR UNITS**

The cooling coils shall be made of Copper Tubing having extended Aluminum fins. The evaporator coil shall be multi-pass, cross finned tube type, equipped with highly efficient Aluminum fins, and mechanically bonded to seamless, oxygen free copper tubes. The coil shall be cleaned, dehydrated and tested for leakage at factory. The cooling coils circuit shall be fed with liquid refrigerant through the electronic expansion device and distributor. The indoor unit shall have three speed fan motor. The blower shall be statically and dynamically balanced and designed for silent operation at required airflow rates against required static pressure. The filters shall be washable synthetic media type arranged for convenient cleaning and replacement. The drain pan shall be fabricated out of heavy sheet steel, insulated with 1/4" expanded polyethylene sheet. The casing shall be of heavy gauge G.I., duly powder coated for weather protection. All indoor units to be supplied with EU-4 i.e. 10 micron filters.

### **CASSETTE TYPE INDOOR UNITS**

- 1. Regular Cassette Unit**
- 2. Compact Cassette Unit**

These units shall be installed between the bottom of finished slab & top of false ceiling. The maximum allowable height for the cassette type units shall be 250/300 mm.

The unit must have in built drain pump, suitable for vertical lift of 750 mm.

The unit casing shall be Galvanized Steel Plate.

Unit must be insulated with sound absorbing thermal insulation material, Polyurethane foam. The noise level of unit at the highest operating level shall not exceed 40 dB (A), at a vertical distance of 1.0 m from the grille of the unit.

Unit shall have provision of connecting fresh air without any special chamber & without increasing the total height of the unit (250 to 300 mm maximum).

The unit shall be supplied with suitable decorative panel.

The unit shall be supplied with Resin Net filter with Mold Resistance. The filter shall be easy to remove, clean & reinstall.

The unit will be connected in series to a suitable outdoor unit & it must be possible to operate the unit independently, through corded/ cordless remote specified in the "Bill of quantities". The unit will be further connected to Intelligent Building Management System (To be supplied by other vendors) & it shall be possible to operate the unit through this IBMS system.

The unit shall be supplied with following from the factory –

Operation Manual  
Installation Manual  
Paper pattern for installation

Drain hose/ Clamp metal/ Washer fixing plate/ Sealing pads/ Clamps/ Screws/ Washer for hanging bracket/ Insulation for fitting

**NOTE:** The unit shall be supplied with following from the factory –

Operation Manual  
Installation Manual  
Installation panel  
Paper pattern for installation  
Insulation tape/ Clamps/ Screws



## **CONTROLS SYSTEM FOR VRF/VRV AIR CONDITIONING SYSTEM**

### **WIRED REMOTE CONTROLLER**

Wired remote controller shall be supplied as specified in the “Bill of Quantities”.

The controller must have large crystal display screen, which displays complete operating status.

The digital display must allow setting of temperature with 1 Deg C interval.

Remote shall be able to individually program by timer the respective times for operation start and stop within a maximum of 72 hours

Remote must be equipped with thermostat sensor in the remote controller that will make possible more comfortable room temperature control

The remote shall be able to monitor room temperature & preset temperature by microcomputer & can select cool/ heat operation mode automatically.

The remote must constantly monitor malfunctions in the system & must be equipped with a “self diagnosis function” that let know by a message immediately when a malfunction occurs.

It shall be possible to wire the remote up to 500 RMT.

### **WIRELESS REMOTE CONTROLLER**

Wireless remote controller shall be supplied as specified in the “Bill of Quantities”

The same operation modes & settings as with wired remote controllers must be possible.

Compact light receiving unit to be mounted into wall or ceiling shall be included.

### **CENTRAL REMOTE CONTROLLER**

Central Remote controller shall be supplied as specified in the “Bill of Quantities”

Following functions shall be possible

- Control Max 64 Groups (128 indoor units)
- Zone control
- Malfunction code display
- All the functions available with wired remote controller
- It should be possible to wire the remote to 1000m
- Individuals AC IDU temperature range selection option required.

**NOTE:** ALL OUT-DOOR UNITS SHALL BE MOUNTED ON MS ANGLE FRAME STRUCTURE. THE MS ANGLE FRAME STRUCTURE SHALL BE PAINTED WITH EPOXY PAINT. THE SHADE OF THE PAINT SHALL BE APPROVED BY THE ARCHITECT.

**ANCILLARY WORK:****Ducting:**

Ducts shall be fabricated as per IS-655 from galvanized steel sheets of ducting quality and conform to IS-277.

The duct construction shall be as per the following;

Max Side (mm)	Thickness of sheet	Type of Joints	Type of Bracing
Up to 750	24 G	25 x 3 mm MS angle flange	None
751 to 1500	22 G	25 x 3 mm MS angle flange	25 x 3 mm MS angle @ 1.2 mtr.
1501 to 2250	20 G	40 x 3 mm MS angle flange	40 x 3 mm MS angle @ 1.2 mtr.
Above 2251	18 G	50 x 3 mm MS angle flange	50 x 3 mm MS angle @ 1.2 mtr.

Diameter (mm)	Thickness mm (G)
75 to 250	0.50 (26G)
275 to 350	0.50 (26G)
375 to 600	0.63 (24G)
650 to 900	0.80 (22G)
950 to 1250	1.00 (20G)
1300 to 1600	1.25 (18G)

Duct shall be fabricated as per the above specification & the same shall be supported on hangers as per the following;

Duct size (mm)	Maxm. Dist. Between two supports (m)	Support angle (mm)	Support hanger rod dia (mm)
Up to 750	2.4	25 x 3 mm	6
751 to 1500	2.4	40 x 3 mm	10
1501 to 2250	2.4	50 x 5 mm	12
Above 2251	2.4	50 x 5 mm	12

Duct shall be fabricated as per the approved drawing & the same shall be independently supported from the building construction. The hangers shall be fixed to nearest civil / M.S. structure by M.S. angle cleats. The duct running over false ceiling shall be supported independently from the civil / M.S. structure above. In no case a duct shall be supported from the false ceiling hangers or be permitted to rest on a hung ceiling. Soft neoprene rubber gasket of uniform 3 mm thickness shall be used as gasket between flange joints. The gasket shall be fixed with a suitable adhesive to the flange. Galvanized hexagonal full threaded nut-bolts of minimum 6 mm dia. Shall be used for fastening the flanges & spacing between two nut-bolts shall not exceed 125 to 150 mm.

Fans shall be connected to duct work by a double canvass sleeve. Each sleeve shall be minimum 150mm long, securely bolted to duct and units. Each sleeve shall be made smooth and the connecting ductwork rigidly held in line with unit inlet or outlet.

**REFRIGERANT PIPING:**

All refrigerant piping for the air conditioning system shall be constructed from soft seamless copper pipes up to 19.1mm and hard drawn copper refrigerant pipes for above 19.1mm with copper fittings and 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. Before joining any copper pipe or 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.

After the refrigerant piping installation has been completed, the refrigerant piping system shall be pressure tested using nitrogen at pressure of 550 PSI. Pressure shall be maintained in the system for 24 hours. The system shall then be evacuated to minimum vacuum of 700mm Hg and held for 24 hours.

The air-conditioning system supplier shall design sizes and erect proper interconnections of the complete refrigerant circuit....

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

Pipe Size in mm(OD)	Wall Thickness in mm (min.)
41.3	1.2
38.1	1.2
34.9	1.2
31.8	1.1
28.6	1.0
25.4	1.0
22.2	1.0
19.1	1.0
15.9	1.0
12.7	0.8
9.5	0.8
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.

The refrigerant piping should be insulated with class 'O' nitrile rubber of minimum 19 mm thickness. All lateral & longitudinal joints should be suitably sealed so that a chance of condensation is avoided. **Exposed piping insulation to be covered with 1 layer of glass cloth and 2 layers of UV paint.** All joints of refrigerant piping should be pre-insulated type.

#### **DRAIN PIPING:**

Condensate from the drain pan of IDU shall be drained out through properly designed & installed drain piping to prevent any accumulation of condensate in drain pan. Drain piping shall be 1-1/4" or 2" dia rigid PVC pipe of 9 Kg/cm<sup>2</sup> pressure rating with water tight connection. Complete drain piping shall be made leak proof and water tight by means of precise installation & use of leak proof sealant / adhesive. Drain piping shall be insulated with pipe sleeves of nitrile rubber insulation. Lateral & longitudinal joints shall be properly covered & sealed to avoid any condensation & leakage.

## **DUCTING INSULATION:**

### **Thermal Insulation (Ducting):**

Complete ducting including bends, flanges, damper, and supports shall be insulated with closed cell nitrile rubber sheet with al foil surface for ducting not exposed to atmosphere.

Insulation material shall be Closed Cell Elastomeric Nitrile Rubber with aluminum foil for inside ducting and for exposed ducting it should be covered with 28G Aluminum cladding.

Thermal conductivity of elastomeric nitrile rubber shall not exceed 0.033 W/(m.k) at mean temperature of 0°C

Insulation material shall have anti-microbial product, which is EPA (Environmental Protection Agency), as an integral part of insulation which cannot be washed off or worn off.

The insulation shall have fire performance such that it passes Class 1 as per BS476 Part 7 for surface spread of flame as per BS 476 and also pass Fire Propagation requirement as per BS476 Part 6 to meet

the Class 'O' Fire category as per 1991 Building Regulations (England & Wales) and the Building Standards (Scotland) Regulations 1990

Material shall be FM (Factory Mutual), USA approved.

Moisture Diffusion Resistance Factor or 'μ' value shall be minimum 10,000.

### **Application Areas**

HVAC Ducts.

### **Technical Details:**

Temperature Range: 0°C to +105°C Overall (irrespective of the base product)

Colour: Silver-

Treatment: Fibre spillage / Dust migration should be minimum. It should be a non metallic cladding and should eliminate galvanic corrosion.

Density: 275 +/- 10 gsm

### **Application Notes:**

The covering should be cut to size according the circumference of the insulated pipe (allow an additional 50 mm for the overlap of the covering material). The Overlap shall be securely fixed using manufacturer's recommended Adhesive.

Spread thin film of manufacturer recommended adhesive on the 50 mm overlap and close the seam. All fittings have to be covered to the same standards as the covering of the pipe work. No additional vapor barrier is needed.

Note: Above Adhesive shall be manufacturer supplied / recommended.

**The manufacturer's trained installer shall only be used for installation.**

**Insulation of the ducting will be measured on flat surface basis of GI duct.**

### **Acoustic Insulation (Ducting) :**

#### **Material:**

Material shall be engineered Nitrile Rubber open cell foam

The Random Incidence Sound Absorption Coefficient (RISAC); tested as per ISO 354.

The material shall be fiber free

The density of the same shall be within 140-180 Kg/m<sup>3</sup>

It shall have antimicrobial product protection, and shall pass Fungi Resistance as per ASTM G 21 and Bacterial Resistance as per ASTM G 22, from an independent testing agency.

The material shall have a thermal conductivity not exceeding 0.047 W/m.K @ 20 Deg. C.

The material shall withstand maximum surface temperature of +850C and minimum surface temperature of -200C.

The material shall conform to Class 1 rating for surface spread of Flame in accordance to BS 476 Part 7 & UL 94 (HBF, HF 1 & HF 2) in accordance to UL 94, 1996.

The insulation shall pass Air Erosion Resistance Test in accordance to ASTM Standard C 1071-05 (section 12.7), from an independent accredited testing agency.

Thickness of the material shall be as specified for the individual application. The insulation shall be installed as per manufacturer's recommendation.

### **Duct Acoustic Lining**

Ducts so identified and marked on Drawings and included in Schedule of Quantities shall be provided with acoustic lining of thermal insulation material for a distance of minimum 3 meters.

### **Installation Procedure**

The inside surface for the ducts shall be covered with adhesive recommended by the manufacturer. Cut Foamed sheets into required sizes apply adhesive on the foam and stick it to the duct surface.

### **Roof Slab Under-Deck Insulation:**

Inside surface of the exposed roof has to be cleaned thoroughly. Then 50mm thick 'TF' Quality Thermocol slabs of 18 – 20 kg/m<sup>3</sup> density to be pasted to the surface with G.I. screws and round washers 75 mm dia., at a distance of maximum 500 mm from each other. Secure the Thermocol slabs further with G.I. cross wires and 24g G.I. wire netting fixed with the screws.

Insulation of the roof slab will be measured on flat surface basis

### **Dampers:**

Dampers shall be opposed blade type louvered dampers of robust construction and tight fitting made from 16g / 18g G.I. sheet. Dampers shall be provided with suitable links, Gear and quadrants as required for their proper operation, control or setting in any desired position.

### **Grilles and Diffusers:**

All diffusers shall be constructed out of extruded aluminium sections. All grills shall be in extruded aluminium bar type construction duly powder coated.

Supply/Return air grilles/diffusers shall be provided with volume control damper made out of extruded aluminum section and painted black.

The supply and return air grilles shall be fabricated from extruded aluminum sections. The supply air grilles shall have single / double louvers. The return air grille shall have single horizontal extruded section fixed louvers.

The damper blades shall also be of extruded aluminum. The grill flange shall be fabricated out of aluminum extruded section. Grilles longer than 450 MM shall have intermediate supports for the horizontal louvers.

### **Volume control dampers (V.C.D)**

Dampers shall be of G.I 16 gauge. The volume dampers shall be of an approved type, lever operated and complete with locking devices which will permit the dampers to be adjusted and locked in any position and clearly indicating the damper position. The damper shall be provided with graduated scale for % opening or closing. A suitable casing shall be provided over the lock to avoid tampering with locked position.

The dampers shall be of splitter, butterfly or louver type. The damper blade thickness shall not be less than 1.25 MM (18 Gauge).

Dampers and frames shall be constructed of 1.6 MM Galvanized steel sheets and blades shall not be more than 225 MM wide. The dampers for fresh air inlet shall additionally be provided with fly mesh screen.

For air balancing an opposed blade damper with quadrant and thumb screw lock should be provided.

### **Painting**

All ferrous components on the HVAC system shall be provided with one coat of approved primer and epoxy coat of paint of approved color.

### **Electric work:**

#### **Electric Panel: (If required separately)**

The licensed electrical contractor shall carry out the electrical work. Installation & testing of electrical work shall be as per IS:732 while earthing of electrical panel shall be as per IS:3043. The complete electrical work shall be carried out as per relevant rules of Indian Electricity board & local governing bodies.

The panel shall be fabricated from high quality 16-gauge sheet, stiffened and suitably reinforced. It shall be painted with seven-tank process and the final paint coat shall be stove enameled. The housing shall be of sectionalized construction. The space shall be provided for separate vertical bus droppers and cable alley of minimum 200 mm width for each panel section. The construction of the panel shall be such that it remains dust and vermin proof.

Motor feeders above 7.5 KW shall be provided with ammeters. Minimum size of power wiring shall be 2.5 mm sq. Cu / 4.0 mm sq. Al. Control wiring shall be done with 2.5 mm sq. stranded copper conductor PVC insulated wires. Indicating instruments shall be taut-band type only.

All overload relays shall be with built-in SPP. All spare contacts shall be wired up to terminal block.

For case of cabling wherever it is possible circuit breakers and large isolating switches shall be positioned below the bus-bar chamber. To achieve a neat & symmetrical arrangement all meters and indicating lights shall be located adjacent or on the unit with which these are connected. Facility shall be provided for termination of all normal types of cables entering from above and clamps shall be provided to support the weight of cables. Necessary Nameplates shall be fixed on the panels to indicate the equipment of circuit controlled by the switches. All push buttons shall have 2 NO and 2 NC contacts.

### **Cabling & Ear thing work:**

The power wiring shall be suitable for 415V, 3ph, 50 Hz, 4 wire supply. Wiring for motors shall be carried out in PVC sheathed and steel wire or tape armoured cable.

The control wiring shall be in PVC insulated and PVC sheathed, multi core, stranded copper cable (minimum 2.5 mm<sup>2</sup> Cu) with the required number of cores.

Power cables and wire shall be of copper or aluminium of 1100 V grade, control wires of copper 660 V grade ad shall confirm to IS: 1554 / IS:694.

Cabling shall be carried on walls or in racks or in cable trays suspended from hangers or laid in trenches as required. Where more than one cable is running, proper spacing shall be provided to minimize the loss in current carrying capacity.

The radius of bends for cables shall not be less than the specified minimum radius by the manufacturer to ensure that no undue stress is caused to cable.

For cables passing through pipes, PVC/Neoprene rubber bushes shall be provided at the ends. For cables passing through floors or walls, pipe inserts shall be provided and opening shall be sealed.

Cables shall be terminated using weather proof double compression brass nickel plated cable glands and tinned copper crimped lugs.

PVC type Heavy gauge conduit, metal saddles of approved type shall be used for conducting. Bends and elbows shall be of inspection type where required. All joints shall be watertight. Conduits shall be secured to the switches, junction boxes etc., by threaded couplers. Flexible PVC conduits shall be used for connections with vibrating equipment. Suitable means to isolate each motor in case of emergency shall be provided as per IS: 900

The main panel shall be connected to the main earthing stations by means of G.I. Strips as per Indian electricity rules and IS: 3043. All electrical equipment shall be provided with two separate earth connections. All earthing connections shall be visible for periodical checking.

Earthing Conductors size shall be:

Equipment	Earth Conductor Size
Motor up to 10 HP	G.I. Wire 10 gauge
Motor above 10 HP	25mm x 3 mm G.I. strip

### **Testing & Commissioning:**

All the equipment installations shall be tested in accordance with Indian Electricity Rules and IS:732 before commissioning. Test Report of a licensed electrical contractor shall be furnished in this regard.

## SECTION - X: LIST OF APPROVED MAKES

Sr.	Details of Material /Equipment	Approved Makes
1	VRF / VRV units	Daikin / Mitsubishi Ele. / Toshiba (Except China made)
2	Copper Pipe	Mandev / Mexflow / Totaline
3	Hard UPVC Pipes	Supreme / Prince
4	G.I. Sheet	Jindal / Llyod Steel / Tata
5	Grille / Diffuser	Ruskin Titus / System Air/ Dynamic
6	Insulation Material: a) Nitrile Rubber b) Exp. Polystyrene (Thermocole)	Arm flex (Class – O) Beardsell / Cooline (TF Quality 18-20Kg/m3 density)
7	Electrical: a) Motor b) Motor starter / Power switch c) Fuse carrier / Fuse Link d) Multi function meter e) Push Button f) Selector Switches g) Cable 1) Armored Cable 2)Flexible Cable h) PVC rigid conduits & Accessories  i) Main Distribution Boards j) Miniature Circuit Breaker k) ELMCB/RCCB l) Adhesive Tape m) Cable Lugs n) Cable gland Single/Double Compression o) Cable gland FLP Double Compression p) Switch gears q) HRC fuses r) MCCB / ACB s) Indicator lamps (LED Type) t) Cable Tray u) Misc. Hardware	ABB / Siemens / CG ABB / Siemens / L&T / Schneider Siemens / English Electric Conserve/ Siemens / L & T / Schneider Siemens / L&T / Schneider / Hansu / Baliga L & T / Salzer / Kaycee  Finolex / Universal / Polycab / RR Kabel Finolex / Universal / Polycab / RR Kabel 2.0mm thick Precision Plastic Co. ISI and FIA approved ABB/MOS/L&T/MerilinGerin ABB/MOS/L&T/MerilinGerin ABB/MOS/L&T/MerilinGerin Bhor (Steel Grip) or approved equivalent Dowell / Lotus / Jaiozon HMI / Comet / Central Hardware Ind  HMI / Comet / Central Hardware Ind  ABB / Siemens / L&T ABB / Siemens / L&T ABB / Siemens / L&T Teknic / Predifine / Binky Associated Industries / Globe / Indiana / BG As approved by EIC / Client / Consultants

**Note:** - All items to be used in the works samples (low side material), catalogues and specifications are to be submitted by the contractor for approval of the Consultant. Only approved makes shall be used in the works. The approved samples shall be kept in the custody of the Consultant for comparison



**Project : ICAI- Jodhpur****HVAC TECHNICAL DATA SHEET**

VARIABLE REFERIGERANT FLOW SYSTEM				
Outdoor Units				
ODU capacity called for (HP)				
ODU capacity offered (HP)				
No. of modules per selected ODU				
Space required for ODU modules (L x W x Ht.mm)				
Operating weight in Kg per ODU module				
	Cooling Capacity KW	Total Power KW (Including Cond. Fan)	Cooling Capacity KW	Total Power KW (Including Cond. Fan)
KW at 100% @35 deg C				
KW at 75% @ 35 deg C				
KW at 50% @ 35 deg C				
KW at 25% @ 35 deg C				
KW at 100% @45 deg C				
KW at 75% @ 45 deg C				
KW at 50% @ 45 deg C				
KW at 25% @ 45 deg C				
Full Load Current (Amp)				
Starting current (Amp)				
Voltage Range				
Min Voltage				
Max Voltage				
Compressor				
Make				
Model				
Type (Inverter-inverter / Digital-fixed / Inverter-fixed etc.)				
List of safety devices provided for compressor safety				
Test pressure of compressor (kg/sq.cm.)				
Refrigerant (R410 / etc.)				
Design suction temperature (Deg C)				
Design discharge temperature (Deg C)				
Condenser				
Make/ Type/Model				
Fan Dia				
No. of Fans				
Fan motor (KW) & Speed (rpm)				
Fan motor (with Variable speed or without variable speed)				
Air quantity (cfm)				
Coil face area (sq.ft.)				
No. of rows & Al. fins per inch.				
Copper tube thickness & diameter (G / mm)				
Velocity of air across the coil (fpm)				
Cassette AC units required capacity TR	1.3	1.6	2	2.3
Unit offered capacity TR				

Unit offered with Condensate drain pump. (Yes / No)				
Air quantity (cfm)				
Coil faces area (sq.ft.)				
Evap. Copper tube thickness & diameter (G / mm)				
Aluminium fins gauge & spacing (G / FPI)				
No. of rows				
Fan motor KW/ rpm				
Full load current of fan motor				
No. of speed for fan				
Noise level at different speed (db)				
Unit dimension (L x W x H) mm				
Unit weight (Kg)				
Cassette AC units required capacity TR	2.6	3	4	
Unit offered capacity TR				
Unit offered with Condensate drain pump. (Yes / No)				
Air quantity (cfm)				
Coil faces area (sq.ft.)				
Evap. Copper tube thickness & diameter (G / mm)				
Aluminum fins gauge & spacing (G / FPI)				
No. of rows				
Fan motor KW/ rpm				
Full load current of fan motor				
No. of speed for fan				
Noise level at different speed (db)				
Unit dimension (L x W x H) mm				
Unit weight (Kg)				
Make & type of Insl. Material for Ref piping exposed to atmosphere.				
Make & type of Insl. Material for Ref piping not exposed to atmosphere.				
Make & type of Insl. Material for Cond. drain piping.				
ELECTRICAL PANEL FOR VRF ODU				
Make				
Body material				
Appx. Dimension (Lx WX H) in mm				
Make of components				
MCB				
MF				
Push button/ indicating lamps				
Switches				
Contactors				
Electrical Cable				
Power cabling				
Make				
Type (Armored/Flexible)				
Control cabling				
Make				
Type (Armored/Flexible)				
Earthing				
Type (GI strip / Cu flexible cable )				

**SECTION - XI**  
**TENDER OF DRAWINGS**





## TENDER DOCUMENT

FOR

**SUPPLY, INSTALLATION AND COMMISSIONING OF HEATING,  
VENTILATION AND AIR CONDITIONING(HVAC)  
SYSTEM**

FOR

**ICAI BHAWAN BUILDING**

AT

**JODHPUR**

**BOOK- II**

**PRICE BID**

**ARCHITECTS:**

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Tender for The **HVAC Work** for **ICAI Bhawan- Jodhpur Branch**,  
at Khasra no. 91 at Chopasni, Jodhpur.

Item No.	Description	Qty.	Unit	Rate	Amount
<b>1</b>	<b>Section 1: High Side Work</b>				
1	Supply & Installation of <b>Outdoor condensing</b> units of the following capacity with R 410 Gas Based Model.(Bidder to offer nearest size of Unit & suitable combinations available with them & must consider piping derating for all odus.)				
1.1	52 HP - GF ( 18 + 18 + 16 HP )	1	No.		
A	50 HP - FF ( 18 + 18+ 14 HP )	1	No.		
B	Supply & Installation of <b>VRF-indoor units</b> of the following capacity. (Bidder to offer nearest size of Unit available with them)				
1.2	Ceiling mounted 4 way Cassette Unit with condensate drain pump.				
A.2	1.04 TR - Compact	1	No.		
1	1.30 TR	0	No.		
2	1.62 TR	3	No.		
3	2.04 TR	4	No.		
4	2.30 TR	2	No.		
5	2.62 TR	6	No.		
6	3.0 TR	14	No.		
7	4.0 TR	2	No.		
8	Hi wall Init				
9	1.04 TR	1	No.		
10	1.30 TR	0	No.		
11	1.62 TR	1	No.		
12	2.04 TR	1	No.		
1.3	Remote control Systems				
a.3	Cordless remote controllers ( Operating Mode:- On/Off/Fan Speed/Mode/Temp )	35	No.		
b.3	Standard Corded remote controllers (Oprating Mode:- On/Off/Fan Speed/Mode/Temp )	0	No.		
c.3	Touch Screen Corded remote controllers (Orating Mode:- On/Off/Fan Speed/Mode/Temp )	0	No.		
d.3	Centralized (PC Controller) Control System Controller.	1	Lot		

Item No.	Description	Qty.	Unit	Rate	Amount
	Centralized Control System with Intelligent Manager software. Only PC will be supplied by Owner rest all other items to complete the system for AC is to be included by AC vendor.				
	* PC access should be possible.(PC by Owner)				
	* System should control & monitor all installed IDU / ODU. Following should be minimum controlling & monitoring features that system should cover;				
	Start / Stop Temperature settings, Fan speed control, Mode control, Group formation, view alarms, Fault Diagnosis.				
1.4	Ref-net joints for above VRF systems.	33	No.		
1.5	Outdoor unit branch kit	4	No.		
	<b>Sub Total of Section 1</b>		<b>Rs.</b>		
<b>2</b>	<b>Section 2: Low Side Work</b>				
	Supply, Fabrication and Erecting structure steel for support. Applying two coats of zinc chromate primer of ICI, Asain make/eq., with rubber gasket between support & duct / pipe as per specifications and drawings and as directed by the Engineer-in-Charge client /consultant. Make : Tata / Sail / JSW as per IS-2062 with TC. ( with 2 coats of approved color epoxy paint )	600	Kg		
2.2	For VRF system, all refrigerant piping between indoor & outdoor units duly insulated as per specifications. All piping inside the room shall be properly supported with hanger and exposed piping shall be properly supported in GI Perforated tray. Exposed piping insulation to be covered with 1 layer of glass cloth and 2 layers of UV paint and all the insulation joints must be covered with EPDM Rubber Tape.				
A.2	52 HP / 50 HP hard Copper piping	170	R.mt		
B.2	52 HP / 50 HP Soft copper piping	136	R.mt		
2.3	Supply & Installation of Insulated UPVC drain piping for all VRF Indoor AC units. (All the Insulation joint must be covered with aerotape.) ( Min 9 mm thk Class O Nitriler Rubber)				
a.3	For 25 mm dia	136	R.mt		

Item No.	Description	Qty.	Unit	Rate	Amount
b.3	For 32 mm dia	20	R.mt		
c.3	For 40 mm dia	80	R.mt		
d.3	For 50 mm dia	60	R.mt		
e.3	Testing & Commissioning of VRF system along with topping-up of refrigerant Gas.				
f.3	52 HP - GF ( 18 + 18 + 16 HP )	1	No.		
g.3	50 HP - FF ( 18 + 18+ 14 HP )	1	No.		
2.4	Electrical Panel :  Supply, installation, testing & commissioning of Electrical panel for catering electrical power supply to VRF outdoor units on Terrace. Incomer to panel will be terminated by other agency. Water proof (IP-65) control Panel should be complete with main MCB, Multi functional meter, rotary switch, indicating lamps, bus-bar & single phase preventer for each outgoing feeder, etc. (Electrical panel should be suitable for VRF ODU.)				
A.4	For 52 HP + 50 HP	1	No.		
2.5	Electrcial Work:-				
A.5	All Cu armored power cable between electrical panel & VRF ODU's located on Terrace. This cabling should be properly supported in G.I Cable trays where-ever required.				
1	4 HP / 6 HP	0	R.mt		
2	8 HP / 10HP	0	R.mt		
3	12 / 14 HP	12	R.mt		
4	16 HP / 18 HP	60	R.mt		
B.5	Suitable G.I. strip /wire for earthing work.	40	R.mt		
C.5	All control cables between indoor and outdoor unit lay in PVC pipe and clamped.(for VRF system)				
1	1.5 Sq.mm 2 core Shielded Control Cable	420	R.mt		
D.5	Suitable G.I perforated cable trays with necessary structural supports, anchor bolts, etc. for the above work.				



Item No.	Description	Qty.	Unit	Rate	Amount
1	100 x 100 x 25	0	R.mt		
2	150 x 150 x 25	0	R.mt		
3	200 x 200 x25	0	R.mt		
4	300 x 300 x 50	20	R.mt		
5	450 x 450 x 50	20	R.mt		
6	600 x 600 x 50	0	R.mt		

E.5	Supply & installation of 50 mm thk 'TF' quality thermocole under-deck insulation to the exposed roof of AC area. (Density 18-20 kg/m3)	400	Sq.mt		
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<b>Sub Total of Section 2</b>				<b>Rs.</b>	
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<b>Basic Total of Section - 1 + 2:-</b>				<b>Rs.</b>	
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<b>Grand Total</b>				<b>Rs.</b>	
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In Words - ( Rupees		Only )
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**Contractor signature & stamp**