

TENDER DOCUMENT

FOR

**CONSTRUCTION OF NEW ACADEMIC
BLOCK & RENOVATION OF EXISTING
OFFICE BLOCK**

DAV Public School, 7BLM-A, Srivijaynagar, Anupgarh
(Under direct control of DAV college management committee, New Delhi)
Tel. – 98160-54865, 70187-43434
Mail:- davsivr@gmail.com

Date: 13.12.2023

NOTICE INVITING TENDER (NIT)

- 1.0 DAV Public school, 7BLM-A, Srivijaynagar, invites open tenders with quote(s) for award on Engineering, Procurement and Construction (EPC) basis from experienced and eligible Contractors for construction of new academic block (Phase-2) and renovation of existing office block for DAV Public School at 7BLM-A, Srivijaynagar, Anupgarh and as per schedule as under:

1.1	Tendering Document No.	RJ008/23A01 Dated 13/12/2023
1.2	Name of the Work	Construction of new academic block (Phase-2) & renovation of existing office block
1.3	Brief Scope of Work	RCC framed structure educational institution building
1.4	Estimated Cost	93,30,593/-
1.5	Period of Completion	12 Months
1.6	Earnest Money Deposit ('EMD')	Rs. 1,86,612/- (One lakh eighty six thousand six hundred twelve only) Bank Details of DAV (India) Ltd. for Bank Guarantee only: <ul style="list-style-type: none"> • Name of Beneficiary: DAV Public School, Srivijaynagar • Bank: <u>Punjab National Bank</u> • Branch: Srivijaynagar, Anupgarh • Savings A/C No.: <u>06632011000690</u> • IFSC Code: <u>PUNB066310</u>
1.7	Non-refundable cost of Tender document	Tender document can be downloaded free of cost from school website www.davvijaynagar.in
1.8	Non-refundable tender processing fee	Rs. 2,000/- in the shape of DD/PO/Cheque in favour of DAV Public school, Srivijaynagar, payable at Srivijaynagar, Anupgarh.
1.9	Last date & time of submission of Tender Documents	Up to 03.01.2024 by 02.00PM (IST) At the office of Principal, DAV Public school, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704

1.10	Period during which hard copy in original of Declaration in lieu of EMD, Cost of Tender Document, Letter of unconditional Acceptance of tender conditions, Affidavit for Correctness of Documents/ information and other document as per NIT (if any) shall be submitted.	Till last date & time of submission of Tender Documents
1.11	Date & Time of Opening of Technical Bid	04.01.2024 at 11:30 AM
1.12	Pre-Tender Meeting & Venue	30.12.2023 At 11:30 AM At DAV Public school, 7BLM-A, Srivijaynagar, Anupgarh, Raj.
1.13	Date & Time of Opening of Financial Bid	To be Intimated Later
1.14	Validity of offer	150 days from the date of opening of tender.

The tender document can be from school website www.davvijaynagar.in free of cost. **"Corrigendum, if any, will be uploaded on the same website and would be conveyed through registered contact numbers and mail-IDs of bidders and not to be published in any News Paper".**

2.0 Minimum Eligibility Criteria:

The interested bidders should meet the following minimum qualifying criteria:

A. Work Experience:

i) Experience of having successfully completed "similar works" during the last 3 years ending **initial stipulated** last date of submission of tenders as per NIT:

a. Three similar works each costing not less than 40% of the estimated cost put to tender

OR

b. Two similar works each costing not less than 50% of the estimated cost put to tender

OR

c. One similar work costing not less than 80% of the estimated cost put to tender.

"Similar works" shall mean "Residential/Non-Residential Building works of any no. of storey".

ii) The past experience in similar nature of work should be supported by certificates issued by the client's organisation. In case the work experience is of Private sector the completion certificate shall be supported with copies of Letter of Award and copies of Corresponding TDS Certificates. Value of work will be considered equivalent to the amount received as per the TDS Certificates.

iii) (a) The value of executed works, for the purpose of this clause shall also include the value of any materials (such as cement, steel, etc.), services (scaffolding, batching-plant, other machinery, etc.), which have been supplied by client/employer free-of-cost/on-discounted-price to the

contractor, and which have not been already included in the 'value of works executed' that is reflected/declared on the relevant 'experience certificate' or 'Letter of Award'. Such exclusion shall be specifically mentioned on the Letter of Award, "Experience Certificate" and the 'value of free supplies' shall be separately certified by the employer, or in cases where the employer is a private entity, by a practicing cost/chartered accountant (holding valid certificate of practice), ***However work executed as labour contract shall not be considered.***

(b) The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the date of completion to previous day of initial stipulated last date of submission of tenders as per NIT.

iv) Joint-venture / consortia of firms / companies and Foreign bidders are not eligible to quote for the Tender.

v) The bidders submitting experience certificate for the works done in joint venture (JV)/consortium with other firms/companies, their proportionate experience to the extent of its share in the JV/consortium or work done by them shall only be allowed on submitting the valid proof of their share/ work done.

vi) Certificates in the name of other Companies:

a) Certificates of Subsidiary/Parent/Group Company/Own works:

Any company/firm while submitting tender can use the work experience of its subsidiary company to the extent of its ownership in the subsidiary company. On the other-hand, the companies/firms which intend to get qualified on the basis of experience of the parental company/group company/Own works shall not be considered. Further, the financial parameters of the subsidiary or Parental Company cannot be used by the other one for qualification.

b) Merger/ Acquisition of Companies: In case of a Company/firm, formed after merger and/ or acquisition of other companies/firms, past work experience and Financial parameters like turnover, profitability, net worth etc of the merged/ acquired companies/firms will be considered for qualification of such Company/firm provided such Company/firm continues to own the requisite assets and resources of the merged/ acquired companies/firms.

vii) Foreign Certificate:

(a) In case the work experience is for the work executed outside India, the bidders have to submit the completion/experience certificate issued by the owner duly signed & stamped and affidavit to the correctness of the completion /experience certificates. The contractor shall also get the completion/experience certificates attested by the Indian Embassy/Consulate/High Commission in the respective country.

In the event of submission of completion /experience certificate/ other documents by the Bidder in a language other than English, the English translation of the same shall be duly authenticated by Chamber of Commerce of the respective country and attested by the Indian Embassy/consulate / High Commission in the respective country.

Note:

Provided further that bidders from member countries to the HAGUE convention, 1961 are permitted to submit requisite documents with

"Apostille stamp" affixed by Competent Authorities designated by the government of respective country which would be acceptable in lieu of attestation from the Indian Embassy/ Consulate/ High Commission in their respective countries.

- (b) For the purpose of evaluation of Bidders, the conversion rate of such a currency into INR shall be the daily representative exchange rate published by the IMF as on 7 (Seven) days prior to the Last Date of Submission of tender including extension(s) given if any.

B. Financial Strength:

- i) The Average annual Audited financial turnover for last 3 years shall be at least 40% of the estimated cost put to tender. The requisite Turnover shall be duly certified by a Chartered Accountant with his Seal/signatures and registration number.

In case of Companies/Firms less than 3 years old, the Average annual financial turnover shall be worked out for the available period only.

- ii) Audited Net Worth of the company/firm as on last day of proceeding (or last audited) Financial Year, should be positive.
- iii) **Self-certified copy of** Bank Solvency Certificate issued from Nationalised or any Schedule Bank should be one in number for at least 40% of Estimated Cost of the Project put to tender. The certificate should have been issued within 6 months from original last date of the submission of the tender.

Note: Bank Solvency Certificate is not required if estimated cost put to tender is up to Rs.25 Crore.

- iv) The Bidder should at least have earned profit in minimum one year in the available last three consecutive balance sheets. The bidders are required to upload and submit page of summarised Balance Sheet (Audited) and also page of summarised Profit & Loss Account (Audited) for last three years.

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

4.0 **Set of Contract/Tender Documents:**

The following documents will constitute set of tender documents:

- a) Notice Inviting e-Tender
- b) Memorandum to NIT (Annexure-I)
- c) Instructions to Tenderers & General Conditions of Contract
- d) Technical Specifications
- e) Scope of Works
- f) List of approved makes of materials
- g) Acceptance of Tender Conditions (Annexure-II)
- h) Integrity Pact^(*) (Annexure-III)
**To be signed and stamped by the contractors and to be submitted with the bid*
- i) Addendum/Corrigendum, if any,- Duly signed by authorized person
- j) Special Conditions of Contract,
- k) Pre-bid clarifications, if any
- l) Quoting Sheet for Tenderer
- m) Bill of quantities
- n) Tender drawings

7.0 The tenderers are required to quote strictly as per terms and conditions, specifications, standards and scope of works given in the tender documents and not to stipulate any deviations. The Bank Guarantee for EMD submitted by the bidders shall be strictly in the format prescribed in GCC. In case, EMD is not found verbatim in the prescribed format, the bid will be liable for rejection.

8.0 The bidders are advised in their own interest to submit their bid documents well in advance from last date/time of submission of bids so as to avoid problems which the bidders may face in submission at last moment /during rush hours.

However, after submission of the tender the tenderer can re-submit revised tender any number of times but before last time and date of submission of tender as notified.

9.0 When it is desired by DAV to submit revised financial tender then it shall be mandatory to submit revised financial tender. If not submitted then the tender submitted earlier shall become invalid.

10.0 On opening date, the tenderer can attend and see the tender opening process.

11.0 Contractor is required to provide copies of all the documents including valid GST registration/EPF registration, PAN No. as stipulated in the tender document.

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

13.0 Notwithstanding anything stated above, DAV building sub-committee reserves the right to assess the capabilities and capacity of the tenderer to perform the contract, in public interest and the overall interest of DAV. In case, tenderer's

capabilities and capacities are not found satisfactory, DAV building sub-committee reserves the right to reject the tender.

14.0 Certificate of Financial Turn Over:

At the time of submission of tender, the tenderer shall submit Affidavit/Certificate from Chartered Accountant mentioning Audited Financial Turnover of last 3 years or *for the period as specified in the tender document*. There is no need to submit entire voluminous balance sheet. However, one page of summarised balance sheet (Audited) and one page of summarised Profit & Loss Account (Audited) for last 03 years shall be submitted.

15.0 Contractor must ensure to quote rate as per the quoting sheet. The Rate shall be Quoted upto 2 Decimals.

16.0 The tenderer(s) if required, may submit queries, if any, through E-mail and in writing to the tender inviting authority to seek clarifications within 7 days from the date of Notice of tender but latest by so as to reach DAV office not less than 2 days prior to the date of Pre-bid meeting (if to be held as per NIT). DAV will reply only those queries which are essentially required for submission of bids. DAV will not reply the queries which are not considered fit like replies of which can be implied /found in the NIT/ Tender Documents or which are not relevant or in contravention to NIT/Tender Documents, queries received after 7 days from the date of Notice of tender, request for extension of time for opening of technical bids, etc. Technical Bids are to be opened on the scheduled dates. Requests for Extension of opening of Technical Bids will not be entertained.

The Pre-Bid meeting shall be attended by the intending bidders only and not by vendors/manufacturers. Further, the intending bidders should depute their authorized person with authorization letter in original to attend the pre-bid meeting.

17.0 Integrity Pact (For all contracts valuing Rs.5.00 Crores and above)

17.1 Integrity Pact duly signed by the tenderer shall be submitted. Any tender without uploading pre-signed integrity Pact shall be liable for rejection.

17.2 Independent External Monitors

- (i) In respect of this project, the Independent External Monitors (IEMs) would be monitoring the bidding process and execution of contract to oversee implementation and effectiveness of the Integrity Pact Program.
- (ii) The Independent External Monitor(s) (IEMs) have been appointed by DAV in terms of Integrity Pact (IP)-Section 6, which forms part of the tenders /Contracts. The contact details of the Independent External Monitor (s) are posted on the DAV's website.
- (iii) This panel is authorized to examine / consider all references made to it under this tender in terms of Integrity Pact. The Independent External Monitors (IEMs) shall review independently, the cases referred to them to assess whether and to what extent the parties concerned comply with the obligations under the Integrity Pact entered into between DAV and Contractor.
- (iv) The Independent External Monitors (IEMs) has the right to access without restriction to all Project documentations of the Employer including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his Project Documentations. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder / Contractor / Sub-Contractors etc.

with confidentiality.

18.0 List of Documents to be submitted to the office of Principal, DAV public school, 7BLM-A, Srivijaynagar, within the period of tender submission:

- a) Demand Draft / Pay Order or Banker's Cheque / Bank Guarantee of any Nationalised or Commercial Scheduled Bank against the EMD as per NIT.
- b) Demand Draft/Pay Order or Banker's Cheque of any Scheduled Bank towards tender processing fee.
- c) Form-H -Affidavit duly notarized by Notary Public on Non-Judicial Stamp Paper of Rs. 100 for correctness of Documents and Information.
- d) Unconditional Letter of Acceptance of Tender Conditions (in original) (Annexure-II) (On Letter Head of the Applicant/ Bidder).
- e) Integrity pact duly signed by the contractor (Annexure-III) (for all contracts valuing Rs.5.00 Crores & above).The bidders are required to download the Integrity Pact as uploaded in the tender documents, and sign on the same, put rubber stamp/seal and upload the signed copy on e-tendering websites.
- f) Details of Similar Work Experience Certificates - FORM-A.
- g) Details of Similar Works executed as part of JV/Consortium, and claimed in bid (if any) - FORM-B.
- h) Financial Details - FORM-C.
- i) TDS details for Private Sector Projects - FORM-D.
- j) Self-certified copy of Bank Solvency Certificate- FORM-E.
- k) Documents regarding Net Worth of the Company / Firm.
- l) Memorandum to NIT (Annexure-I)
- m) Power of Attorney/Board Resolution of the person authorised for signing/submitting the tender
- n) E-payment Transaction details towards cost of processing fees.
- o) Valid GST registration / EPF registration / PAN NO.
- p) All pages of the entire Corrigendum (if any) duly signed by the authorized person.
- q) Pre-bid clarifications, if any.
- r) General Information – **Form-F**

- s) Work Experience Certificates consisting of details as mentioned in **Form-G**
- t) Registration Details of the contractor in the GST Act- **Form-I**
- u) Performa for Details of Client Organization in respect of Work Experience Certificates. – (**Form – J**)

NOTE:

1. The documents at sl. Nos. a, b, c and d (i.e. Tender processing fee, Demand Draft / Banker's Cheque/ Pay Order or Bank Guarantee against EMD as per NIT, Unconditional letter of acceptance duly signed on letter head, Notarized Affidavit for correctness of document/information) are required to be submitted in original in hard copy also within the period of tender submission. All the documents are required to be submitted in hard copy.
 2. In case of non-submission of tender processing fee and/or Demand Draft / Banker's Cheque/ Pay Order or Bank Guarantee against EMD, the bid shall be rejected summarily without seeking any further clarification.
 3. Unconditional letter of acceptance duly signed on letter head, Notarized Affidavit for correctness of document/information are mandatory documents and are needed to be checked carefully for its correctness before submission of tender. The bid shall be rejected outrightly in case of its non-submission, without seeking any further clarification/document. No claim of the bidder whatsoever shall be entertained by DAV in this regard.
 4. The bidders are advised to submit complete details with their bids as **Technical Bid Evaluation** will be done on the basis of documents submitted to the office by the bidders with the bids. Please note no fresh document other than in the form of clarification/revision in respect of an already- submitted document shall be accepted after last date of submission of bids.
 5. The information should be submitted in the prescribed performa. Bids with Incomplete/Ambiguous information are liable to be rejected.
 6. All the submitted documents should be in readable, printable and legible form failing which the Bids are liable for rejection.
 7. Bank Guarantee for EMD submitted by the bidders shall be strictly in the format prescribed in GCC/NIT. In case, Bank Guarantee for EMD is not found to be a verbatim copy of the prescribed format, the bid will be liable for rejection.
- 19.0 All the submitted documents shall be considered as duly signed by contractor/ authorized representative.
- 20.0 DAV building sub-committee/Principal/Chairman reserves the right to reject any or all tenders or cancel/withdraw the invitation for bid without assigning any reasons whatsoever thereof. DAV does not bind itself to accept lowest tender.
- 21.0 Canvassing in connection with the tender is strictly prohibited, and such canvassed tenders submitted by the contractor will be liable to be rejected and his earnest money shall be absolutely forfeited.
- 22.0 In case of any query, please contact **Shri Ajay Datta (Principal, DAV)** on **Ph. No. 9816054865, Office - 9772020003** during Office hours.

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MEMORANDUM

Sl. No.	Description	Cl. No. of NIT/ITT/ Clauses of Contract (CC)	Values/Description to be Applicable for Relevant Clause(s)			
1)	Name of Work		Construction of new academic block (Phase-2) & renovation of existing office block			
2)	Client/Owner		DAV Public School, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704			
3)	Type of Tender		Engineering Procurement and Construction			
4)	Earnest Money Deposit	NIT	Rs. 1,86,612/- (Rupees One lakh eighty six thousand six hundred twelve only)			
5)	Estimated Cost	NIT	Rs 93,30,593/- (Rupees Ninety three lakh thirty thousand five hundred ninety three only)			
6)	Time allowed for Completion of Work	NIT	12 Months			
7)	Mobilization Advance	CC / 4.0	Not Applicable			
8)	Interest Rate of Mobilization and/or other Advances	CC / 4.0, 5.1, 23.4.2	Simple Interest Rate @10%Per Annum (Ten Percent only)			
9)	Schedule of Rates applicable		Civil Works : BSR 2022 Sanitary Works : BSR 2022 Electrical Works : BSR 2022			
10)	Validity of Tender	ITT / 8.0	150 (One Hundred Fifty) Days from date of opening of tender.			
11)	Performance Guarantee	CC / 2.0	3.00 % (Three Percent Only) of contract value within 15 days from the issue of Letter of Award			
12)	Security Deposit / Retention Money	CC / 3.0	5.00% (Five Percent Only) of the gross value of each running/final bill.			
13)	Time allowed for starting the work	CC / 17.1	The date of start of contract shall be reckoned from 10 days after the date of issue of letter of Award,			
14)	Deviation limit beyond which clause 6.2 & 6.3 shall apply for all works except foundation.	CC / 6.0	BUILDING WORKS	ANNUAL REPAIR & MAINTENANCE OF BUILDINGS	ROAD WORK	
			30%	50%	50%	
			Note:-The Deviation Limit of Building Work shall also apply for combined works (Building and Road)			

15)	Deviation limit beyond which clause 6.2 & 6.3 shall apply for foundation work	CC / 6.0	BUILDING WORK	ANNUAL REPAIR & MAINTENANCE OF BUILDINGS	ROAD WORK
			100%	NOT APPLICABLE	NOT APPLICABLE
			Note:-The Deviation Limit of Building Work shall also apply for combined works (Building and Road)		
16)	Escalation	CC / 7.0	the rate quoted by contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works, No escalation shall be applicable on this contract		
17)	Recovery rate of work force supplied by DAV to Contractor	CC /71	Rs.40,000/- per person per month (Rupees Forty thousand per person per month only) plus GST @ 18% or as per prevailing rate on the date of recovery.		
18)	Defect Liability Period	CC /38.0	Twenty Four months from the date of taking over of the works by the DAV or client whichever is later.		
19)	Bank Guarantee for waterproofing work and anti-termite treatment	CC/52.0	Not Applicable		
20)	Utilization of products from recycled C&D waste, as per C&D Waste Management Rules, 2016	CC/53.1	(As per approved by Consultant-In-Charge) as per IS 383:2016		
21)	GST Rate applicable in this contract	CC/18.0	As per CGST rules 2017 & Amendments		

BUDGETARY ESTIMATE FOR**Proposed construction of new academic block and renovation of existing Office building at DAV Public School, Shivpuri, Srivijaynagar, Sriganganagar, Rajasthan - 335704**

SL. NO.	DESCRIPTION OF ACTIVITY	EST. AMOUNT (in Rs.)	REMARKS
1	Construction of new academic block	77,71,833.83	
2	Renovation of existing office block	15,58,758.81	
12	TOTAL	93,30,592.64	
Note:			
1. Budgetary Estimate & BOQ has been prepared based on concept plans approved by DAV college management committee & DAV public school, Shivpuri (Srivijaynagar).			
2. Layout & broad finishes has been considered as per option approved			
3. Following works have been envisaged in the subject estimate:			
a) Construction of new academic block.			
b) Renovation of existing office block.			
4. The Write-Off / Dispose Off of existing movable furniture & equipment is to be done by DAV public school.			
5. The budgetary estimate has been worked out to +/- 10% accuracy.			
6. Budgetary Estimate is submitted for approval as per engineering Manual.			
Prepared by		Finance Conc.	Approving Authority

DAV PUBLIC SCHOOL

(Under direct control of DAV college management committee)

7BLM-A, Srivijaynagar, Anupgarh-335704

GENERAL CONDITIONS OF CONTRACT EPC Works

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Instructions to Tenderers (ITT)

1.0	Open tenders for award of work on Engineering, Procurement and Construction (EPC) basis are invited from experienced and eligible Contractors for Construction of new academic block (Phase-2) & renovation of existing office block for DAV Public School at 7BLM-A, Srivijaynagar, Anupgarh, Raj.
2.0	The work is estimated to cost Rs. 93,30,593/- and shall cover all items of supplies & works whether directly stated or implied as per scope, standards & specifications, design basis report, detailed drawings & designs, etc. included in this tender document, including site inspections & carrying out related preparatory works, etc. This estimate, however, is given merely as a rough guide.
3.0	The tender document can be downloaded from school website www.davvijaynagar.in
4.0	<p>Earnest Money Deposit</p> <p>Earnest Money Deposit amount as mentioned in "NIT/ Memorandum (Annexure-I)" required to be submitted along with the tender shall be in the form of Demand Draft/ Pay Order/ Bank Guarantee of any Nationalised or Commercial Scheduled Bank payable at place as mentioned in NIT in favour of DAV (India) Limited from any Scheduled Bank or Bank Guarantee from any Nationalized or all Commercial scheduled banks in the enclosed format. The EMD shall be valid for minimum period of 180 (One Hundred Eighty) days from the original last day of submission of Tender. The EMD shall be scanned and uploaded to the e-Tendering website within the period of tender submission and original should be deposited in office of DAV.</p> <p>The EMD shall be payable to DAV (India) Limited without any condition(s), recourse or reservations.</p> <p>(i) The Bid will be rejected by DAV as non-responsive and shall not be considered in case EMD is not received in Physical form.</p> <p>(ii) The EMD of unsuccessful bidders in technical evaluation shall be returned within 30 days of declaration of technical evaluation results. Further, the EMD of bidders other than L1 will be returned within 15 days, after opening of Financial Bid.</p> <p>(iii) The EMD of the successful bidder will be discharged after the contractor has furnished the required acceptable performance guarantee.</p> <p>(iv) No interest shall be paid by DAV on the EMD</p> <p>(v) EMD may be forfeited:</p> <p>a) if the bidder withdraws the bid after bid opening during the period of validity;</p> <p>b) Any unilateral revision in the offer made by the tenderer during the validity of the offer.</p> <p>c) If the contractor hides/withholds (or does not disclose) any material information</p>

	<p>d) Upon non acceptance of LOI/LOA, if and when placed.</p> <p>e) In the case of a successful bidder; if the bidder fails to Sign the Agreement with in the 30 days from the date of issue of LOA or furnish the required performance security or fail to commence the work within the stipulated time period prescribed in the contract.</p> <p>f) If any bidder furnishes any incorrect or false statement/information/document.</p> <p>g) If the bidder does not intimate the names of persons who are working with him in any capacity or are subsequently employed by him who are near relatives to any officers of DAV and/or name of bidder's near relative who is posted in the project office/concerned Zonal/SBG/ /RBG office of DAV.</p> <p>h) If bidder commits any breach of Integrity Pact.</p>
5.0	<p>Interested contractor who wish to participate in the tender has also to make following payments in the form of Demand Draft/Pay Order or Banker's Cheque of any Scheduled Bank and to be scanned and uploaded to the e-Tendering website within the period of tender submission:</p> <p>(A) Cost of Tender Document – Not applicable. Tender document can be downloaded from school website www.davvijaynagar.in free of cost.</p> <p>(B) Tender Processing Fee – Rs 2,000/- (Rs. Two) through DD / PO /Cheque in favour of DAV public school, Srivijaynagar. Payable at Srivijaynagar, Anupgarh.</p> <p>(C) Following shall be placed in single sealed envelope superscripted as "Earnest Money, Cost of Tender Document, Affidavit and Letter of Unconditional Acceptance." with "name of work" and "due date of opening of the technical-bid" also mentioned thereon:-</p> <ul style="list-style-type: none"> (i) Demand Draft or Pay Order or Banker's Cheque towards Cost of Tender Process, (ii) Demand Draft or Pay Order or Banker's Cheque or Bank Guarantee of any Nationalised or Commercial Scheduled Bank against EMD, (iii) Affidavit for correctness of Documents /Information (In original) – Form 'H'. (iv) Letter of Unconditional Acceptance of Tender Conditions (in original) (Annexure-II) (On Letter Head of the Applicant/ Bidder). (v) All other required forms and details for technical bid, as per GCC and attached annexures. <p>(D) Following shall be placed in single sealed envelope superscripted as "Technical bid" with "name of work" and "due date of opening of the technical-bid" also mentioned thereon:-</p> <ul style="list-style-type: none"> (i) Details of Similar Work Experience Certificates - FORM-A. (ii) Details of Similar Works executed as part of JV/Consortium, and claimed in bid (if any) - FORM-B. (iii) Financial Details - FORM-C. (iv) TDS details for Private Sector Projects - FORM-D. (v) Self-certified copy of Bank Solvency Certificate- FORM-E.

	<p>(vi) Documents regarding Net Worth of the Company / Firm.</p> <p>(vii) Memorandum to NIT (Annexure-I).</p> <p>(viii) Power of Attorney/Board Resolution of the person authorised for signing/submitting the tender.</p> <p>(ix) Valid GST registration / EPF registration / PAN NO.</p> <p>(x) All pages of the entire Corrigendum (if any) duly signed by the authorized person.</p> <p>(xi) Pre-bid clarifications, if any.</p> <p>(xii) General Information – Form-F.</p> <p>(xiii) Work Experience Certificates consisting of details as mentioned in Form-G.</p> <p>(xiv) Registration details of the contractor in the GST Act–Form-I.</p> <p>(xv) Performa for Details of Client Organization in respect of Work Experience Certificates. – Form – J.</p> <p>(E) Following shall be placed in single sealed envelope superscripted as “Financial bid” with “name of work” and “due date of opening of the technical-bid” also mentioned thereon:-</p> <p>(i) Quoting sheet.</p> <p>(ii) Duly filled BOQ.</p>
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6.0	<p>The documents are to be submitted in the office of DAV before last date & time of submission of tender mentioned in the NIT.</p> <p>The documents submitted shall be opened as per the time/date mentioned in the NIT.</p> <p>Technical tender documents submitted by intending tenderers shall be opened only of those tenderers, whose Earnest Money Deposit, Cost of Tender Document and other documents placed in the envelope are found in order. The Price tender of those tenderers whose documents found to be in order shall be opened. The date of opening of price tender shall be informed to the tenderer.</p>
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7.0	<p>The tender submitted shall become invalid if:</p> <ul style="list-style-type: none"> i) The tenderer is found ineligible. ii) The tenderer does not upload all the documents as stipulated in the tender document. iii) If any discrepancy is noticed in the documents submitted at the time of submission of tender physically in the office of tender opening authority.
8.0	<p>VALIDITY OF TENDER</p> <p>The tender for the works shall remain open for acceptance for a period of 150 (One Hundred Fifty) days from the date of opening of tender.</p> <p>If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the DAV, then the DAV shall, without prejudice to any other right or remedy, be at liberty to forfeit the "Earnest Money Deposit" as aforesaid. Further the tenderers shall not be allowed to participate in the retendering process of work.</p>
9.0	<p>ACCEPTANCE OF TENDER</p> <p>DAV building sub-committee reserves the right to reject any or all the tenders in part or full without assigning any reason whatsoever. DAV does not bind itself to accept the lowest tender.</p>
10.0	<p>The tenders shall be strictly as per the conditions of contract. Tenders with any additional condition(s)/modifications shall be rejected. Tenders in which, any of the prescribed conditions are not fulfilled or found incomplete in any respect are liable to be rejected.</p>
11.0	<p>The witnesses to the Tender/Contract Agreement shall be other than the tenderer/ tenderers competing for this work and must indicate full name, address, and status/occupation with dated signatures.</p>
12.0	<p>On acceptance of tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from Consultant-In-Charge or its authorized representative shall be intimated by the contractor within 07 days of issue date of letter of Awards by DAV.</p>
13.0	<p>The tenderer shall not be permitted to tender for works if his near relative is posted in the project office or concerned office of the</p>

	<p>DAV. The contractor shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any of the employees in DAV. Any breach of this condition by the tenderer would render him liable to the withdrawal of the work awarded to him and forfeiture of Earnest Money and Security Deposit. This may also debar the contractor from tendering for future works under DAV.</p> <p>For the purpose of operation of this clause a near relative shall mean wife, husband, parents, grandparents, children, grandchildren, brothers, sisters, uncles, aunts, cousins and their corresponding in-laws.</p>
14.0	The time of completion of the entire work, as contained in contract shall be as mentioned in "Memorandum to NIT - Annexure-I", which shall be reckoned from the date of start.
15.0	Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
16.0	The tender award, execution and completion of work shall be governed by tender documents consisting of (but not limited to) Letter of Award/Letter of work order, Bill of Quantities, Special Conditions of Contract, General Conditions of Contract, Specifications, Drawings. The tenderers shall be deemed to have gone through the various conditions including sub-soil water conditions, topography of the land, drainage and accessibility etc. or any other condition which in the opinion of contractor will affect his price/rates before quoting their rates. No claim whatsoever against the foregoing shall be entertained.
17.0	The drawings with the tender documents are 'Tender Drawings' and are indicative only. The successful bidder shall be required to carry out detailed site inspections/investigations, etc. to assess any impact on cost/time of execution of this.
18.0	<p>ADDENDA/ CORRIGENDA</p> <p>Addenda/Corrigenda to the tender documents may be issued prior to the date of submission of the tender to clarify or effect modification in specification and/or contract terms included in various tender documents. The tenderer shall suitably take into consideration such Addenda/Corrigenda while submitting his tender. The tenderer shall return such Addenda/ Corrigenda duly signed and stamped as confirmation of its receipt & acceptance and submit along with the tender document. All addenda/ Corrigenda shall be signed and stamped on each page by the tenderer and shall become part of the tender and contract documents.</p>
19.0	<p>SITE VISIT AND COLLECTING LOCAL INFORMATION</p> <p>Before submission of tenders, the interested & eligible bidders are advised to visit the site of proposed work, its surroundings to assess and satisfy themselves about the local conditions such as the working and other constraints at site, approach roads to the site, availability of water & power supply application of taxes duties and levies as applicable &</p>

	<p>any other relevant information required by them to execute complete scope of work. The tenderer may obtain all necessary information as to risks, weather conditions, contingencies & other circumstances (insurgencies etc.) which may influence or affect their tender prices. Tenderer shall be deemed to have considered site conditions whether he has inspected it or not and to have satisfied himself in all respect before quoting his rates and no claim or extra charges whatsoever in this regard shall be entertained / payable by the DAV at a later date.</p>
20.0	<p>ACCESS BY ROAD</p> <p>Contractor, where necessary, shall build temporary access roads to the actual site of construction for the works at his own cost to make the site accessible. The Contractor shall maintain the same in motorable condition at all the times as directed by Consultant-In-Charge at his own cost. The contractor shall be required to permit the use of any roads so constructed by him for vehicles of DAV or any other agencies/ contractors who may be engaged on the project site, free of cost.</p> <p>Non-availability of access roads or approach to site, for the use of the contractor shall in no case condone any delay in the execution of work nor be the cause for any claim for compensation.</p>
21.0	<p>HANDING OVER & CLEARING OF SITE</p> <p>21.1 The Contractor should note that area for construction may be made available in phases as per availability and in conjunction with pace of actual progress of work at site. The work may be required to be carried out in constrained situations. The work is to be carried out in such a way that the traffic, people movement, if any, is kept operative and nothing extra shall be payable to the contractor due to this phasing / sequencing of the work. The contractor is required to arrange the resources to complete the entire project within total stipulated time. Traffic diversion, if required, is to be done and maintained as per requirement of local traffic police or/and as per specification, by the contractor at his own cost and the contractor shall not be entitled for any extra payment, whatsoever, in this regard.</p> <p>21.2 The efforts will be made by the DAV to handover the site to the Contractor free of encumbrances. However, in case of any delay in handing over of the site to the Contractor, the DAV shall only consider suitable extension of time for the execution of the work. <i>It should be clearly understood that the DAV shall not consider any revision in contract price or any other compensation whatsoever viz. towards idleness of Contractor's labour, equipment etc.</i></p> <p>21.3 Old structures on the proposed site, if required, shall be demolished by the contractor properly at his own cost unless and otherwise mentioned elsewhere in the tender document. The useful material obtained from demolition of structures & services shall be the property of the owner/DAV and these materials shall be stacked in workmanship like at the place specified by the Consultant-In-Charge.</p> <p>21.4 Necessary arrangement including its maintenance is to be made by the contractor for temporary diversion of flow of existing drain and road, as the case may be. The existing drain, road would be demolished, wherever required, with the progress of work under</p>

	<p>the scope of proposed project. The existing Road and Drain which are not in the alignment of the said project but are affected and/ or need to demolished during execution for smooth progress of the project, shall be rehabilitated to its original status and condition (including black topping) by the contractor at his own cost. The cost to be incurred by contractor in this regards shall be deemed to be included in the quoted rates of the bill of quantity items and contractor shall not be entitled for any extra payment whatsoever in this regard.</p> <p>21.5 The information about the public utilities (whether over ground or underground) like electrical/ telephone/ water supply lines, OFC Cables, open drain etc. is the responsibility of contractor to ascertain the utilities that are to be affected by the works through the site investigation.</p> <p>21.6 The contractor shall be responsible to obtain necessary approval from the respective authorities for shifting/ re-alignment of existing public utilities. DAV shall provide necessary authorisation to represent the client/DAV before such authorities and only assist the contractor for liasioning in obtaining the approval from the concerned authorities.</p> <p>21.7 Any services affected by the works must be temporarily supported by the contractor who must also take all measures reasonably required by the various bodies to protect their services and property during the progress of works. It shall be deemed to be the part of the contract and no extra payment shall be made to the contractor for the same.</p>
22.0	<p>SCOPE OF WORK</p> <p>22.1 The "scope of work" covered in this tender shall be as per the 'Design Basis Report', specifications & standards, finishing schedules, drawings, etc. included in the tender document instructions, orders issued to the contractor from time to time during the pendency of work. The drawings for this work, which may be referred for tendering, provide only a general idea about the work to be performed under the scope of this contract.</p> <p>These may not be the final drawings and may not indicate the full range of the work under the scope of this contract.</p> <p>The work will be executed according to the detailed drawings to be prepared by the consultant as "GOOD FOR CONSTRUCTION" drawings after approval from time to time by the Consultant-In-Charge of DAV and according to any additions/modifications/ alterations/ deletions made from time to time, as required by any other drawings that would be issued to the contractor progressively during execution of work. It shall be the responsibility of the contractor to incorporate the changes that may be directly stated or indirectly implied in this scope of work, Design basis Report, Standards & Specifications forming part of the tender document and/or what is envisaged at the time of tendering as being actually required to be executed.</p> <p>22.2 The contractor shall be bound to carry out and complete the stipulated work irrespective of the variation in any items.</p>
23.0	<p>APPROVAL OF TEMPORARY / ENABLING WORKS</p> <p>The setting and nature of all offices, huts, access road to the work areas and all other temporary works as may be required for the proper</p>

	<p>execution of the works shall be subject to the approval of the Consultant -In-Charge. All the equipment, labour, material including cement, reinforcement and the structural steel required for the enabling/ temporary works associated with the entire Contract-shall have to be arranged by the Contractor only. Nothing extra shall be paid to the Contractor on this account.</p>
24.0	<p>CLARIFICATION AFTER TENDER SUBMISSION</p> <p>Tenderer's attention is drawn to the fact that during the period, the tenders are under consideration, the tenderers are advised to refrain from contacting by any means, the DAV and/or his employees/ representatives on matters related to the tender under consideration and that if necessary, DAV will obtain clarifications in writing or as may be necessary. The tender evaluation and process of award of works is done by duly authorized Tender Scrutiny Committee and this committee is authorized to discuss and get clarification from the tenderers.</p>
25.0	<p>ORDER OF PRECEDENCE OF DOCUMENTS</p> <p>In case of difference, contradiction, discrepancy, with regard to conditions of contract, Specifications, Drawings, Bill of quantities etc. forming part of the contract, the following shall prevail in order of precedence.</p> <ul style="list-style-type: none"> i) Letter of Award, along with statement of agreed variations and its enclosures, if any. ii) Addendum / Corrigendum / Clarifications (if any) iii) Stage Payment Schedule iv) Special Conditions of Contract ('SCC') v) Technical specifications and Standards (General, Additional and Technical Specification) as given in Tender documents. vi) Schedule of Finishes included in Tender Document vii) Description of Work in "Scope of Work", and Design Basis Report viii) Drawings included in tender document ix) NIT / ITT / General Conditions of Contract. x) CPWD/MORTH or Local Authorities' specifications and Analysis of Rates) updated with correction slips issued up to last date of receipt of tenders. xi) Relevant Quality Codes including National Building Code 2016, B.I.S. Codes, RDSO standards, etc. xii) Between two or more Clauses of this Contract, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other clauses; xiii) Between any value written in numerals and that in words, the later shall prevail.
26.0	<p>The benefits under the Govt. policies as under shall be available to the eligible bidders on submitting relevant supporting documents.</p> <ul style="list-style-type: none"> 1. Public Purchase (Preference to make in India) Order 2017 or any further revision at any later date 2. MSMED Act, 2006 and Public Procurement Policy for MSEs, Order-2012 or any further revision at any later date - The policy shall be applicable to Exclusive Service and Supply Contract wherein Supplier provides goods or services at his own without being procured full or part of it from the market.

	<p>Therefore, the policy shall not be applicable to the following:</p> <ul style="list-style-type: none"> a. Service Contracts in the nature of Works Contracts; b. Service contracts which are in the nature of Composite Supply (wherein services provided by the bidder is limited and some of the services/ goods are procured by them from some other party or wherein they need to associate with other consultants to complete the work); c. Traders.
27.0	<p>Bids from Contractor' against whom action to suspend business dealings has been taken by DAV or any of its subsidiaries, shall not be accepted for any future enquiry/ bid/ tender till the expiry of period of debarment. Bidders may refer to the 'Guidelines on Suspension of Business Dealings' on DAV's website</p>

Annexure I-A**Physical Milestones**

S. No.	Name of Activity/ Item of Work	Completion Time/ Date	Amt. (or %-of contract value) to be withheld in case of non-achievement of milestone within scheduled time
	New academic block & toilet block (Phase-2)		
1.	Erection of RCC structure & all brick work	2.5 months from award of work	5%
2.	Conduiting, plumbing & plaster work	3.5 months from award of work	2%
3.	Painting & stone work	4.5 months from award of work	3%
4.	Electric & sanitary fittings, other remaining finishing work	6 months from award of work	5%
	Renovation of existing office block		
5.	Erection of RCC structure & all brick work	7.5 months from award of work	2.5%
6.	Conduiting, plumbing & plaster work	8.5 months from award of work	1%
7.	Painting & stone work	9.5 months from award of work	1.5%
8.	Electric & sanitary fittings, other remaining finishing work	11 months from award of work	2.5%
9.	Site clearance & Handover of both buildings	12 months from award of work	5%

Annexure-II

ACCEPTANCE OF TENDER CONDITIONS

From: (To be submitted in ORIGINAL on the letter head of the company by the authorized officer having power of attorney/as per Board Resolution)

DAV Public School,

7BLM-A, Srivijaynagar, Anupgarh, Raj.-335704

Sub: _____ <Name of the work & NIT No.>:

Sir,

- i) This has reference to above referred tender. I/We have read/viewed all the terms & conditions and are pleased to submit our tender for the above work and I/We hereby unconditionally accept the tender conditions and tender documents in its entirety for the above work.
- ii) I/we are eligible to submit the tender for the subject tender and I/We are in possession of all the documents required.
- iii) Should this tender be accepted, I/We agree to abide by and fulfill all terms and conditions referred to above and as contained in tender documents elsewhere and in default thereof, to forfeit and pay DAV, or its successors or its authorized nominees such sums of money as are stipulated in the notice inviting tenders and tender documents.

Yours faithfully,
(Signature of the tenderer with rubber stamp)

Dated _____

INTEGRITY PACT

BETWEEN

DAV PUBLIC SCHOOL, 7BLM-A, SRIVIJAYNAGAR, ANUPGARH, RAJ, hereinafter referred to as **"The Principal"** (which expression, unless repugnant to the context thereof, shall mean and include its legal representatives, heirs and assigns)

AND

.....hereinafter referred to as **"The Bidder/Contractor"** (which expression, unless repugnant to the context thereof, shall mean and include its legal representatives, heirs and assigns)

Preamble

The Principal intends to award, under laid down organizational procedures, contract(s) for (Name of the contract).....(hereinafter referred to as the 'Project'). The Principal necessarily requires full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and/or Contractor(s).

In order to achieve these goals, the Principal will appoint an Independent External Monitor (IEM), who will monitor the tender process and the execution of the contract for compliance with the Integrity Pact by all parties concerned, for all works covered in the Project.

To meet the purpose aforesaid both the parties have agreed to comply this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Section 1 – Commitments of the Principal

Obligations on Principal

The Employer is committed to follow the principle of Transparency, Equity and Competitiveness in Public Procurement.

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
 - a) No employee of the Principal, personally or through family members or through any other channel, will in connection with the tender for or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit, which the person is not legally entitled to.
 - b) The Principal will, during the tender process treat all Contractor(s)/Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Contractor(s)/Bidder(s) the same information and will not provide to any Contractor(s)/Bidder(s), confidential/additional information through which the Contractor(s)/Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

- c) The Principal will exclude from the process all known prejudiced persons. **The Principal shall** obtain bids from **only** those parties who have been short-listed or pre-qualified or through a process of open advertisement/web publishing or any combination thereof.
- (2) If the Principal obtains information on the conduct of any of its employees, Contractor(s) and/or Bidder(s), which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer or the principal will take remedial actions as per department/conduct rules and **subject to its discretion**, can **additionally** initiate disciplinary actions.
- (3) The Principal will enter into agreements with identical conditions with all Contractor(s)/Bidder(s) **for the different Work Packages in the aforesaid Project**.
- (4) The Principal will disqualify from the tender process all Contractor(s)/Bidder(s) with estimated cost of work put to tender of Rs 5.0 crores and above, who do not sign this Pact or violate its provisions.

Section 2 – Commitments of the Bidder(s) / Contractor(s)

Obligations on Bidder/Contractor

To accept and comply with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by Employer. Duration of the Integrity Agreement shall be in the line with section 8 of the Integrity Agreement.

Bidder/Contractor acknowledge that in the event of breach of the Integrity Agreement Employer shall have unqualified, absolute and unfettered right to take action under section 3.

- (1) It is required that each Bidder/Contractor (including their respective officers, employees and sub-contractors) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of fraud **or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- (2) The Bidder(s) / Contractor(s) commit(s) itself/themselves to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - (a) The Bidder(s) / Contractor(s) will not, directly or through any other person or firm offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage, of any kind whatsoever, during the tender process or during the execution of the contract.
 - (b) The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

- (c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, for purpose of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- (d) The Bidder(s) / Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly the Bidder(s) / Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. It shall be incumbent on the Indian agent and the foreign principal to Adhere to the relevant guidelines of Government of India, issued from Time to time regarding availing services of Indian Agents for foreign Suppliers.
- Further details as mentioned in the "*Guidelines on Indian Agents of Foreign Suppliers*" shall be disclosed by the Bidder(s) / Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only.
- (e) The Bidder(s) / Contractor(s) will, when submitting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- (f) The Bidder(s) / Contractor(s) to disclose any transgression with any other company that may impinge on the anti-corruption principle.
- (3) The Bidder(s) / Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- (4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.
- (5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).
- (6) The Bidder(s)/Contractor(s) signing IP shall not approach the Courts while representing the matters to IEM and he/she will await their decision in the matter.
- (7) The Bidder(s)/Contractor(s), in case of sub-contracting, the Principal contractor shall take the responsibility of the adoption of IP by the sub-contractor.

Section 3: Disqualification from tender process and/or exclusion from future contracts.

Without prejudice to any rights that may be available to the Employer under law or the Contract or its established policies and laid down procedures, the Employer shall have the following rights in case of breach of this Integrity Pact by the

Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Employer absolute right:

- (1) If the Bidder(s) / Contractor(s), before awarding the Project or during execution has committed a transgression by violating Section 2 above or in any other form so as to put his reliability or credibility in question, the Principal, at its sole discretion, after giving proper opportunity to the bidder is entitled to disqualify the Bidder(s) / Contractor(s) from the tender process or terminate the contract, if already awarded or exclude the Bidder/Contractor from future contract award processes, for that reason, without prejudice to any other legal rights or remedies available to the Principal under the relevant clauses of GCC/SCC of the tender/contract. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal. **Such exclusion may be forever or for a limited period as decided by the Principal.**
- (2) If the Contractor(s)/Bidder(s) has committed a transgression through a violation of any of the terms under Section 2 above or in any other form such as to put his reliability or credibility into question, the Principal will also be entitled to exclude such Contractor(s)/Bidder(s) from future tenders/contract award processes. The imposition and duration of the exclusion will be determined by the Principal, keeping in view the severity of the transgression. The severity will be determined by the circumstances of the case, in particular, the number of transgressions and/or the amount of the damage.
- (3) If it is observed after payment of final bill but before the expiry of validity of Integrity Pact that the contractor has committed a transgression, through a violation of any of the terms under Section 2 above or any other term(s) of this Pact, during the execution of contract, the Principal will be entitled to exclude the contractor from further tender/contract award processes.
- (4) The exclusion will be imposed for a minimum period of six (6) months and a maximum period of three (3) years.
- (5) If the Contractor(s)/Bidder(s) can prove that he has restored/recouped the damage to the Principal caused by him and has installed a suitable corruption prevention system, the Principal may, at its sole discretion, revoke or reduce the exclusion period before the expiry of the period of such exclusion.

Section 4: Compensation for Damages

- (1) If the Principal has disqualified the Bidder(s)/Contractor(s) from the tender process prior to the awarding of the Project according to Section 3, the Earnest Money Deposit (EMD)/ Bid Security furnished, if any, along with the offer, as per terms of the Invitation of Tender, shall also be forfeited. The Bidder(s)/Contractor(s) understands and agrees that this will be in addition to the disqualification and exclusion of the Contractor(s)/Bidder(s) as may be imposed by the Principal, in terms of Section 3 above.
- (2) If, at any time after the awarding of the Project, the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Security Deposit/Performance Bank Guarantee furnished by the contractor, if any, as per the terms of the NIT/Contract shall be forfeited without prejudice to any other legal rights and remedies available to the Principal under the relevant clauses of General/ Special Conditions of Contract.

The Contractor(s)/Bidder(s) understands and agrees that this will be in addition to the disqualification and exclusion of the Bidder(s)/Contractor(s), as may be imposed by the Principal in terms of Section 3 above.

Section 5: Previous transgression

- (1) The Bidder(s)/Contractor(s) herein declares that it has committed no transgressions in the last 5 years with any other Company in any country conforming to the anti-corruption approach as detailed herein or with government/ Central Government or State Government or any other Public Sector Enterprise in India that could justify its exclusion from the tender process.
- (2) If at any point of time during the tender process or after the awarding of the Contract, it is found that the Bidder(s)/Contractor(s) has made an incorrect statement on this subject, he can be disqualified from the tender process or if, as the case may be, that the Contract, is already awarded, it will be terminated for such reason and the Bidder(s)/Contractor(s) can be black listed in terms of Section 3 above.
- (3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Employer may, at its own discretion, revoke the exclusion prematurely.

Section 6: Independent External Monitor / Monitors

- (1) The Principal shall, in case where the Project Value is in excess of Rs 5.0 crore and above, appoint competent and credible Independent External Monitor(s) with clearance from Central Vigilance Commission. The Monitor shall review independently, the cases referred to it to assess whether and to what extent the parties concerned comply with the obligations under this Integrity Pact.
- (2) In case of non-compliance of the provisions of the Integrity Pact, the complaint/ non-compliance is to be lodged by the aggrieved party with the Nodal Officer only, as shall be appointed by the CMD, DAV. The Nodal Officer shall refer the complaint/ non-compliance so received by him to the aforesaid Monitor.
- (3) The Monitor will not be subject to any instructions by the representatives of the parties and will perform its functions neutrally and independently. The Monitor shall report to the Chairman-cum-Managing Director, DAV.
- (4) The Bidder(s) / Contractor(s) accepts that the Monitor shall have the right to access, without restriction, all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to its project documentation. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s) / Contractor(s) with confidentiality.
- (5) The Principal will provide to the Monitor, sufficient information about all meetings among the parties related to the Project, provided such meetings could have an impact on the contractual relations between the Principal and the Contractor.
- (6) As soon as the Monitor notes, or believes to note, a violation of this Pact, he will so inform the Principal and request the Principal to discontinue and/or take corrective action, or to take other relevant action(s). The Monitor can in this regard submit non-binding recommendations. However, beyond this, the Monitor has no right to demand from the parties that they act in a specific manner and/or refrain from action and/or tolerate action.

- (7) The Monitor will submit a written report to the CMD, DAV within 4 to 6 weeks from the date of reference or intimation to it and, should the occasion arise, submit proposals for corrective actions for the violation or the breaches of the provisions of the agreement noticed by the Monitor.
- (8) If the Monitor has reported to the CMD, DAV, of a substantiated suspicion of an offence under relevant IPC/PC Act, and the CMD, DAV, has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Chief Vigilance Officer, DAV.
- (9) The word 'Monitor' means Independent External Monitor and includes both singular and plural forms.
- (10) For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter should be examined by the full panel of IEMs jointly as far as possible, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- (11) IEM should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging malafide on the part of any officer of the organisation should be looked into by the CVO of the concerned organisation.
- (12) The role of IEM is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organisations.
- (13) Issues like warranty / guarantee etc. should be outside the purview of IEMs.
- (14) The role of the CVO of the organization shall remain unaffected by the presence of IEMs. A matter being examined by the IEMs can be separately investigated by the CVO in terms of the provisions of the CVC Act or Vigilance Manual, If a complaint is received by him/her or directed to him/her by the commission

Section 7 – Criminal charges against violating Bidder(s)/Contractor(s)/ Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder/Contractor or any employee or a representative or an associate of a Bidder/Contractor, which constitutes a criminal offence under the IPC/PC Act, or if the Principal has substantive suspicion in this regard, the Principal will forthwith inform the same to the Chief Vigilance Officer, DAV.

Section 8 – Duration of the Integrity Pact

This Pact shall come into force when both parties have legally signed it. The Pact shall expire, in case of the Contractor(s), 3 (three) months after the last payment under the Contract is made and in case of the unsuccessful Bidder(s), 2 (two) months after the contract for the project has been awarded.

If any claims is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by CMD of DAV.

The Bidder(s)/Contractor(s), however, understands and agrees that even upon the completion of the Project and/or the last payment under the Contract having been made, if any transgression/violation of the terms of this Pact comes/is brought to the notice of the Principal, it may, subject to its discretion, blacklist and/or exclude such Bidder(s)/Contractor(s) as provided for in Section 3, without prejudice to any other legal right or remedy so available to the Principal.

Section 9 – Other provisions

- (1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
- (2) Changes and supplements as well as termination notices need to be made in writing.
- (3) If the Bidder/Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- (4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement shall remain valid and binding. In such a case, the parties will strive to come to an agreement in accordance to their original intentions.
- (5) Wherever he or his as indicated in the above sections, the same may be read as he/she or his/her, as the case may be.
- (6) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Principal in accordance with this Integrity Agreement! Pact or interpretation thereof shall not be subject to arbitration

(For & On behalf of the Principal)
(Office Seal)

(For & On behalf of Bidder/Contractor)
(Office Seal)

Place_____

Date _____

Witness 1:

(Name& Address)

Witness 2:

(Name & Address)

Tender for:

MANDATORY INFORMATION DOCUMENTS:
DETAILS OF SIMILAR WORK EXPERIENCE CERTIFICATES

S. No	Name of work and its location	Type of Work i.e. Residential / Non Residential Building	Name of Client	Date and No. of Completion Certificate	Date of Start	Date of Completion	Final Approved Value of Contract (excl. items supplied free of cost by the employer) ('X')	Cost of items supplied by employer free of cost (or at fixed cost) ('Y')	Cost of Work on completion including cost of supplies free of cost or at fixed rate by employer ('X+Y')	Reference and Page No. of Documentary Proof
1.										
2.										
3.										
		Details of Work Experience pertaining to "Additional Qualifying Criteria" (as per the NIT, if any)								
4										
5										

1. Certified that the Completion Certificates of above works are enclosed with the Tender Documents.
2. Details mentioned in the above Form are as per Completion Certificates and have not been presumed.
3. If any detail is not mentioned in the Work Completion Certificate, documentary proof of the details like drawings, LOA, BOQ, completion certificate/occupation certificate, copy of final bill, etc. is to be submitted and uploaded on Tender Website along with the Completion Certificate.
4. If any of the above works are executed in JV, Then bidder shall submit such details in FORM-B.

Signature of Bidder with Seal

Tender for:**MANDATORY INFORMATION DOCUMENTS:****DETAILS OF SIMILAR WORKS EXECUTED in JV (if any)**

S. No	Name of Work and its location	Name of Clients	Name of JV member	Bidder's Share % in JV	Type of Work i.e. Residential Non Residential Building	Date and No. of Completion Certificate	Date of Start	Date Completion	Final Approved Value of Contract (excl. items supplied free of cost by the employer) ('X')	Cost of items supplied by employer free of cost or at fixed rate ('Y')	Cost of Work on completion, including cost of supplies free of cost or at fixed rate (X+Y)	Reference. & Page No of Documentary Proof
1												
2												
3												
Details of Work Experience pertaining to Additional Qualifying Criteria as per NIT (if any)												
4												
5												

If any detail is not mentioned in the Work Completion Certificate, documentary proof of detail is to be submitted and uploaded on Tender Website along with the Completion Certificate.

Signature of Bidder with Seal

FINANCIAL DETAILS**Tender For:****MANDATORY INFORMATION DOCUMENTS:**

		1 st FY Rs. (In Lacs)	2 nd FY Rs. (In Lacs)	3 rd FY (& last) FY Rs. (In Lacs)
		a	b	c
i.)	Profit/Loss			
ii.)	Gross Annual Turnover of Previous 3 financial years ending as on last day of the preceding Financial Year.			
iii.)	Average Annual Turnover for previous 3 financial years (Rs. In Lacs) = (a + b + c)/3			
iv.)	Net Worth (paid up capital + reserves) as on last day of the preceding Financial Year.			
v.)	Bank Solvency amount as mentioned in the Bank Solvency Certificate			

1. Summarised page of Audited Profit & Loss Account of previous three Financial Years duly certified by the chartered account, is to be submitted.

2. Summarized page of Audited Balance Sheet of last Financial Year(ending on last day of the preceding Financial Year)duly certified by the chartered account, is to be submitted.

**Signature of Chartered
Accountant with Seal
Membership No. :
UDIN :**

Seal and Signature of bidder

TDS DETAILS FOR PRIVATE SECTOR PROJECTS

S. No.	Name of Work	Name of Clients	Project Cost in Crores	No. And Date of Completion Certificate	Cost of the work on completion in Crores	Payments Received as per TDS In Crores	TDS Corresponding to the Payments	Year wise TDS as per Form-26AS/Form 16A relating to the work
1.								
2.								
3.								

Note: Value of Work done will be considered equivalent to the amount received as per the TDS Certificates.

In case of multiple contracts undertaken from a Client, details of TDS/Form- 26AS for each work mentioned above need to be segregated and given separately.

This form need to be supported with Form-26AS taken in HTML format or Form -16A.

Signature of Bidder with Seal

Signature of Chartered Accountant
With Stamp and Membership Number

UDIN :

Dispatch number of bank/ Date

SOLVENCY CERTIFICATE ON LETTER HEAD OF BANK

This is to state that to the best of our knowledge and information that

M/s having/registered office address
.....
..... is customer of bank and has been maintaining his accounts with our
branch since..... . As per records available with the bank,
M/s..... can be treated as solvent up to a limit of
Rs.....(Rupees in words.....).

It is clarified that the above information is furnished and this certificate is being issued
at the specific request of the customer.

**Name, Designation,
Signature with seal**

Notes:-

1. The certificate should have been issued within 6 months from original last date of the submission of the tender.

GENERAL INFORMATION

1.	Name of Applicant/Company	
2.	Address for correspondence	
3.	Official e-mail for communication	
4.	Contact Person: Telephone Nos. Fax Nos. Mobile	
5.	Type of Organization: a) An individual b) A proprietary firm c) A firm in partnership (Attach copy of Partnership) d) A Limited Company (Attach copy of Article of Association) e) Any other (mention the type)	
6.	Place and Year of Incorporation	
7.	Name of Directors / Partners / Proprietor / Owner in the organization	
8.	Name(s) and Designation of the persons , who is authorized to deal with DAV (Attach copy of power of Attorney	
9.	Bank Details : Name of Bank, Address of Bank Branch, Account No., RTGS, IFS Code	

Signature of Bidder with Seal

Name of the Client with Address, email & phone no.

Dispatch No.....

Date:

WORK EXPERIENCE CERTIFICATE

Name of Contractor _____

1	Name of work / project & Location				
2	Name and Address of the Clients				
3	Agreement Amount				
4	Cost of work on completion				
5	Date of start				
6	Stipulated date of completion				
7	Actual date of completion				
8	Amount of compensation levied for delayed completion, if any				
9	Type of Work: Residential/ Non Residential Building				
10	No. of Basements in any Building of this work				
11	Maximum Height of any Building of this work				
12	Maximum No. of storeys of any Building of this work				
13	Performance report	Outstanding	Very Good	Good	Poor
(a)	Quality of work				
(b)	Resourcefulness				
(c)	Financial soundness				
(d)	Technical proficiency				
(e)	General behaviour				

Date

Name & Designation
Signature with Seal
Of issuing Authority

AFFIDAVIT

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

Affidavit of Mr.S/o
R/o

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

1. That I am the Proprietor/Authorized signatory of M/s
Having its Head Office/Regd. Office at
2. That the information/documents/Experience certificates/ Bank Guarantee(s) submitted by M/s..... along with the tender for(Name of work)to DAV are genuine and true and nothing has been concealed.
3. I shall have no objection in case DAV verifies those from issuing authority(ies). I shall also have no objection in providing the original copy of any of the document(s), in case DAV demands so for verification.
4. I hereby confirm that in case, any document, information & / or certificate submitted by me found to be incorrect / false / fabricated, DAV at its discretion may disqualify / reject / terminate the bid/contract and also place under Holiday list as per DAV Policy.

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

DEPONENT

Verified atthis.....day of

DEPONENT

ATTESTED BY (NOTARY PUBLIC)

GST Registration Details of Contractor/Vender

Name	
Address (As per registration with GST Department)	
City	
Postal Code	
Region/State (Complete State Name)	
Permanent Account Number	
GSTIN ID/Provisional ID No.: (copy of Acknowledgement required)	
Type of Business (As per registration with GST)	
Service Accounting Code/HSN Code:	
Contact Person	
Phone Number and Mobile Number	
Email ID	
Compliance Rating (if updated by GSTN)	

**Performa for Details of Client Organization in respect of Work
Experience Certificates**

*(Details to be provided by the Bidder in respect of the work Experience Certificates
submitted along with the Tender)*

Sl. No .	Details of client organization						
	Name of the Work	Name and Designation of the Experience certificate issuing authority with phone/contact number and working e- mail ID	Name, phone/contact number and working e- mail ID of the highest authority heading the project	Name of Head of the organization	Complete Postal address	E- mai l ID	Phone no.
1.							
2.							
3.							

Seal and Signature of Bidder

CLAUSES OF CONTRACT (CC)

1.0 DEFINITIONS

The Contract means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of DAV public school building sub-committee and the contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Consultant-In-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

- 1.1 DAV public school, 7BLM-A, Srivijaynagar/Building sub-committee, hereinafter called 'DAV' propose to get the works executed as mentioned in the Contract on behalf of Owner/ Client as Implementing agency/Executing Agency.
- 1.2 In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them: -
 - a) **APPROVAL** means approved in writing including subsequent written confirmation of previous verbal approval.
 - b) **CONTRACTOR** shall mean the individual, firm, LLP or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or LLP or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
 - c) **CONTRACT VALUE** means the sum for which the tender is accepted as per the letter of Award.
 - d) **DRAWINGS** mean the drawings referred to in the contract document including modifications if any and such other drawings as may from time to time be furnished and/ or approved by DAV.
 - e) **DATE OF COMMENCEMENT OF WORK:** The date of start of contract shall be reckoned from 10 days after the date of issue of letter of Award.
 - f) **CONSULTANT-IN-CHARGE** means the Consultant of DAV, the name of whom is intimated through letter of award, or his representative duly authorized by him in writing who shall supervise the work and issue necessary instructions to the contractor in matters so delegated to him and/or take contractually permitted actions under such delegated responsibilities as they fall in purview of the Consultant in Charge under relevant clauses of GCC
 - g) **LANGUAGE:** All documents and correspondence in respect of this contract shall be in either Hindi or English Language.
 - h) **"LETTER OF AWARD"** shall mean DAV's letter or notification conveying its acceptance of the tender subject to such conditions as may have been stated therein.
 - i) **MONTH** means English Calendar month 'Day' means a Calendar day of 24 Hrs each.

- j) **DAV** shall mean DAV public school with its registered institution at, 7BLM-A, Srivijaynagar, Anupgarh, Raj. / DAV building sub-committee or its administrative officers or its consultant/engineer or other employees authorized to deal with any matter with which these persons are concerned and authorized on its behalf.
- k) **OWNER/ CLIENT** means the Government, Organization, Ministry, Department, Society, Cooperative, JV Entities (whether incorporated or unincorporated or registered as the case may be) etc. who has awarded the work/ project to DAV and/ or appointed DAV as Implementing / Executing Agency/ Project Manager and/ or for whom DAV is acting as an agent and on whose behalf DAV is entering into the contract and getting the work executed.
- l) **SCHEDULE(s)** referred to in these conditions shall mean the standard schedule of rates of the government mentioned in the Memorandum (Annexure-I) with the amendments thereto issued up to the date of receipt of the tender.
- m) **SITE** means the lands and other places on, under, in or through which the works are to be executed or carried out and any other lands or places provided by DAV/client/owner or used for the purpose of the contract.
- n) **TENDER** means the Contractor's priced offer to DAV for the execution and completion of the work and the remedying of any defects therein in accordance with the provisions of the Contract, as accepted by the Letter of Award or Award letter. The word TENDER is synonymous with Tender and the word TENDER DOCUMENTS with "Tendering Documents" or "offer documents".
- o) **WRITING** means any manuscript typed written or printed statement under or over signature and/or seal as the case may be.
- p) **Works or Work** shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
- r) Headings in the clauses/ conditions of tender documents are for convenience only and shall not be used for interpretation of the clause/condition.
- s) Words imparting the singular meaning only also include the plurals and vice versa where the context requires. Words importing persons or parties shall include firms and corporations and organizations having legal capacities.
- t) **Excepted Risk** are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the DAV or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to DAV's faulty design of works.
- u) **Market Rate** shall be the rate as decided by the Consultant-in-Charge on the basis of the prevailing cost of materials and labour at the site where the work is to be executed plus the percentage mentioned elsewhere in the tender document to cover, all overheads and profits.

2.0 PERFORMANCE GUARANTEE:

- 2.1 "Within 15 (Fifteen) days from the date of issue of letter of Award, the contractor shall submit to DAV irrevocable performance bank guarantee of 3% of the contract value, in the form appended or Fixed Deposit Receipt (FDR) pledged in

favour of DAV public school, Srivijaynagar, from any Nationalized Bank or all Commercial schedule bank, for the due and proper execution of the Contract. In case FDR of any bank is furnished by the contractor to DAV as Performance Guarantee(s) and the bank is unable to make payment against the said FDR, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to DAV to make good the deficit. The Performance Guarantees shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of works gets extended, the contractor shall get the validity of Performance Guarantee extended to cover such extended time for completion of work.

- 2.2 DAV reserves the right of forfeiture of the performance guarantee in the event of termination of contract or non-fulfillment under any of the clauses/ conditions of contract.
- 2.3 PBG/FDR shall be returned after successful completion/ testing/ commissioning and handing over the project to the client up to the entire satisfaction of DAV/ Client and finalization of Extension of Time by Consultant-in-charge.
- 2.4 In case the contractor fails to submit the performance guarantee(s) of the requisite amount within the stipulated period or extended period, letter of Award automatically will stand withdrawn and EMD of the contractor shall be forfeited.
- 2.5 In case part scope of work has been satisfactorily completed and handed over to Client/DAV by the contractor and the remaining work/buildings are under hold/suspended for more than 3 months due to some hindrance beyond control of contractor or due to non-availability of site/clearance from Client/DAV, the performance bank guarantee/FDR submitted by the contractor and available with DAV as on date, on specific request of the contractor, may be released and returned back to the contractor in lieu of submission and due verification of a fresh PBG/FDR of the equivalent amount towards balance work.

3.0 SECURITY DEPOSIT/ RETENTION MONEY

- 3.1 The Security deposit or the retention money shall be deducted from each running/ final bill of the contractor @ 5% (five per cent only) of the gross value of the Running Account/ final bill.
- 3.2 If the amount of Security Deposit deducted in cash is more than Rs.10.00 lakhs (Rupees Ten lakhs only), the excess amount beyond Rs. 10 Lakhs can be replaced by the contractor by submission of Bank Guarantee on maximum three times for contracts valued upto Rs. 300 crore, and upto five times for contracts valued above Rs. 300 Crore in the prescribed performa of DAV or Fixed Deposit Receipt (FDR) pledged in favour of DAV (India) Limited of equivalent amount from any Nationalized Bank or all Commercial Scheduled Bank. Only the Original Contract Value will be counted for this purpose. The Bank Guarantee/ FDR shall be initially valid up to the 3 months beyond the stipulated defect liability period. In case the time for completion of works gets enlarged, the contractor shall get the validity of bank Guarantee/ FDR extended to cover such enlarged time for completion of work.
- 3.3 The release/refund of security deposit of the contractor shall be subject to the observance/compliance of the conditions as under and whichever is later:
 - a) Expiry of the defect liability period in conformity with provisions contained in clause 38.0 (Defect liability clause). The expiry of defect liability period shall be extended from time to time depending upon extension of time granted by DAV.

- b) The contractor produces a clearance certificate from the labour office. As soon as the work is virtually completed, the contractor shall apply for the labour clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Consultant-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate.
- 3.4 DAV reserves the right of part or full forfeiture of security deposit in addition to other claims in the event of contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract.

4.0 MOBILIZATION ADVANCE

- 4.1 Mobilization advance up to maximum of amount as mentioned in the "Memorandum (Annexure-I)" shall be paid to the contractor, if requested by him, on submission of irrevocable Bank Guarantee valid for contract period of an amount 1.1 times of the mobilization advance to take care of advance and interest at prescribed rate from a nationalized bank or all Commercial scheduled bank in the enclosed Performa. The Mobilization advance shall be interest bearing @ as mentioned in the "Memorandum (Annexure-I)".

This advance shall be paid in three installments as follows:

- i) First Installment of fifty percent of total mobilization advance shall be paid after the agreement is signed and upon submission of performance guarantee for full amount as specified.
- ii) 2nd installment of twenty-five (25%) percent of total mobilization advance will be paid after the setting up of site office and site laboratory, complete mobilization of plant and machinery, scaffolding & shuttering materials etc.
- iii) The Balance twenty-five (25%) percent of total mobilization advance shall be paid on completion of 10% of work in terms of cost and after the contractor has fully mobilized the work at site.

The advance so paid to the Contractor shall only be used in execution of this Contract including setting up of site office and site laboratory, complete mobilization of plant and machinery, scaffolding & shuttering materials etc.

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

In case, for any reason whatsoever, the outstanding mobilization advance including interest accrued thereupon, at any stage of the project, exceeds the amount of BG available with DAV for the purpose, the contractor shall submit an additional bank guarantee of 10% of outstanding mobilization advance valid for the full contract period to cater to additional interest liability.

In case the work could not be commenced for a considerable period, DAV will also have the right to seek the refund of Mobilization Advance along with accrued interest. In case of failure on the part of Contractor to return the Mobilization advance and accrued interest, DAV reserves the right to forfeit the Bank Guarantee submitted by contractor for the purpose as well as other dues payable to the contractor and adjust the same towards Principal amount and accrued interest.

- 4.3 The bank guarantee submitted by contractor against mobilization advance shall initially be made for the full amount as mentioned in para 4.1 above and valid for the contract period, and be kept renewed from time to time to cover the balance amount and likely period of completion of recovery together with interest. However, the contractor can submit part bank guarantees against the mobilization advance in as many numbers as per proposed number of recovery installments equivalent to the amount of each installment.
- 4.4 Notwithstanding what is contained above, no mobilization advance whatsoever shall be payable, if payment of mobilization advance is not mentioned in the Memorandum (Annexure-I).

5.0 SECURED ADVANCE AGAINST NON-PERISHABLE MATERIALS

Interest free secured advance up-to a maximum of 75 % (seventy five percent) of the cost/Market Value of the Materials or the 75 % (seventy five percent) cost of materials as derived from the tendered item rate of the contractor, whichever is less, required for incorporation in the permanent works and brought to site and duly certified by DAV consultant shall be paid to the Contractor for all non-perishable items. The advance will be paid only on submission of Indemnity Bond in the prescribed pro-forma.

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

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

5.1 Recovery of Secured Advance

When materials on account of which an advance has been made under clause 5.0 are incorporated in the work, the amount of such advance shall be recovered / deducted, from the next payment made under any of the clauses of this contract.

Amount of advance against each material shall be recovered within 3 months from the date of payment. In case recovery could not be made within the above period due to any reason, interest as applicable to mobilization advance and mentioned in the Memorandum (Annexure-1) shall be charged on the outstanding advance amount which shall be recovered/deducted on monthly basis.

6.0 DEVIATIONS / VARIATIONS EXTENT AND PRICING

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

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

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

6.2 In the case of extra item(s), the contractor may within fifteen days of receipt of order claim rates, supported by proper analysis, for the work and the consultant-in-charge shall within one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and agree with the contractor that extra items shall be paid in accordance with the rates so determined & mutually agreed.

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

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

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

- 6.4 Market Rates to be determined as per various sub-clauses under the clause 6.0 shall be on the basis of **prevailing rates of Material excluding GST (unless mentioned otherwise), Relevant Labour authority rate for Labour, market rates of T&P etc. plus 15% towards Contractors' Profits and Overheads.**

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

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

7.0 ESCALATION

No claim on account of any escalation on whatsoever ground shall be entertained at any stage of works. Price quoted by contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. No escalation shall be payable on this contract

8.0 COMPENSATION FOR DELAY

If the contractor fails to maintain the required progress in terms of clause 16.0 or relevant clause of GCC & Special Conditions of Contract, to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the DAV on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below (plus GST extra) as the Consultant-in-charge (whose decision in writing shall be final and binding) may decide on the amount of awarded value of the work for every completed day / week (as applicable) that the work remains incomplete.

- i) Compensation for delay of work @ 0.5% of the awarded value of contract, per week of delay Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the Awarded Value of work (exclusive of GST) or of the Tendered Value of the item or group of items of work (exclusive of GST) for which a separate period of completion is originally given. The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with DAV.
- ii) In case, the contractor does not achieve a particular milestone mentioned elsewhere in the tender document or the re-scheduled milestone(s), the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. With-holding of this amount or failure to achieve a milestone, shall be automatic without any notice to the Contractor. However, the withheld amount against the milestone shall be released on achieving that milestone subsequently. In case the contractor fails to achieve a milestone and subsequent milestone(s), the amount mentioned against each milestone(s) not completed shall be withheld combined. Further, no interest, whatsoever, shall be payable on such withheld amount.

9.0 ACTION IN CASE WORK NOT DONE AS PER SPECIFICATIONS

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Consultant-in-Charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the DAV or any organization engaged by the DAV for Quality Assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Consultant-in-Charge or his authorized subordinates in-charge of the work or to the officer of Quality Assurance or his subordinate officers or the officers of the organization engaged by the DAV for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskilful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months of the completion of the work from the Consultant-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Consultant-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 8.0 of the contract (for non-completion of the work in time) for this default. In such case the Consultant-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the Engineer in charge may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Consultant-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

10.0 ACTION IN CASE OF BAD WORK

If it shall appear to the Consultant-in-Charge or his authorized representative in charge of the work or to the Chief Technical Examiner or to any other inspecting agency of Government/ State Government/ Owner where the work is being executed, that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, the contractor shall on demand in writing which shall be made within twelve months of the completion of the work from the Consultant-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, Certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part as the case may require or as the case may be, remove the materials or articles so specified and provide

other proper and suitable materials or articles at his own proper charge and cost, and in the event of his failing to do so within a period to be specified by the Consultant-in-Charge in his demand aforesaid while the contractor failure to do so shall continue, the Consultant-in-Charge may rectify or remove and re-execute the work or remove and replace with others, the material or articles complained of as the case may be at the risk and expense in all respects of the contractor.

11.0 CANCELLATION/DETERMINATION OF CONTRACT IN FULL OR PART

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

- i) If the contractor having been given by the Consultant-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workmanlike manner shall omit to comply with the requirement of such notice for a period of seven days thereafter; or
- ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Consultant-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Consultant-in-Charge; or
- iii) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge; or
- iv) If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Consultant-in-Charge; or
- v) If the contractor shall offer or give or agree to give to any person in DAV service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any action relation to the obtaining or execution of this or any other contract for DAV; or
- vi) If the contractor shall enter into a contract with DAV in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge; or
- vii) If the contractor shall obtain a contract with DAV as a result of wrong tendering or other non-bona-fide methods of competitive tendering or commits breach of Integrity Pact; or

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

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

- a) To determine or rescind the contract as aforesaid in full or part (of which termination or rescission notice in writing to the contractor under the hand of the Consultant-in-Charge shall be conclusive evidence) and get the same executed at the risk & cost of the contractor. Upon such determination or rescission the already retained security deposit recovered under the contract and performance guarantee shall be liable to be forfeited and un-used materials, construction plants, implements, temporary buildings, etc. shall be taken over and shall be absolutely at the disposal of the DAV. or
 - b) To employ labour and to supply materials to carry out the work or any part of the work debiting the contractor with the cost of the labour and the price of the materials of the amount of which cost and price certified by the Consultant-in-Charge shall be final and conclusive) and/ or
 - c) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof as shall be un-executed or delayed with reference to the General Conditions of Contract clause no. 24.0 and/ or relevant clause of Special Conditions of Contract, out of his hands and to give it to another contractor to complete.
- 11.2 Any sums in excess of the amounts due to DAV and unsold materials, constructional plant etc. shall be returned to the contractor, provided always that if cost or anticipated cost of completion by DAV of the works or part of the works is less than the amount which the contractor would have been paid had

he completed the works or part of the works, such benefit shall not accrue to the contractor.

- 11.3 In the event of anyone or more of the above courses being adopted by the Consultant-in-Charge the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Consultant-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

12.0 CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER CLAUSE 11.0

In any case in which any of the powers conferred upon the Engineer-in-Charge by relevant clause thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Consultant-in-Charge putting in force all or any of the powers vested in him under any clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Consultant-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Consultant-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or in the case of these not being applicable, at current market rates to be certified by the Consultant-in-Charge, whose certificate thereof shall be final and binding on the contractor and/or direct the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Consultant-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Consultant-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

13.0 CARRYING OUT PART WORK AT RISK & COST OF CONTRACTOR

If contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after giving a notice in writing of 7 days in this respect from the Consultant-in-Charge; or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or
- (iii) Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete

those within the period specified in the notice given in writing in that behalf by the Consultant-in-Charge.

The Consultant-in-Charge without invoking action under clause 11.0 of contract may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to DAV, by a notice in writing to take the part work/part incomplete work of any item(s) out of his hands and shall have powers to:

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

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

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

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

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Consultant-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Consultant-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

14.0 SUSPENSION OF WORKS

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

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

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

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

- i) The contractor shall be entitled to an extension of the time equal to the period of every such suspension plus 25% for completion period. No adjustment in contract price will be allowed for reasons of such suspension.
- ii) In the event of the Contractor treating the suspension as an abandonment of the Contract by DAV, he shall have no claim to payment of any compensation on account of any profit or advantage which he may have derived from the execution of the work in full.

15.0 TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR

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

16.0 TIME ESSENCE OF CONTRACT & EXTENSION FOR DELAY

- 16.1 The time allowed for execution of the Works as specified in the Memorandum (Annexure-I) or the extended time in accordance with these conditions shall be the essence of the contract. The execution of the works shall commence from such time period as mentioned in MEMORANDUM (ANNEXURE – I) or the date on which the Consultant-in-Charge issues written orders to commence the work. If the Contractor commits default in commencing the execution of the work as aforesaid, the DAV shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.

The Critical milestones to be achieved during execution of the contract within overall scheduled completion period and the amount to be withheld in case of non-achievement of the same are stated at Annexure-IA.

- 16.2 The Contractor shall submit, as per the time-schedule as intimated/directed by Consultant-in-Charge of DAV in LoA or afterwards in the kick-off meeting, a Time and Progress Chart (CPM/ PERT/ Quantified Bar Chart) and get it approved by the Consultant-in-Charge. The Chart shall be prepared in direct relation to the time stated in the contract documents for completion of items of the works/milestone(s) included in 'SCC' or the 'Annexure-I-A to NIT'. It shall indicate the forecast (mile-stones) of the dates of commencement and completion of various items, trades, sections of the work and may be amended as necessary by agreement between the Consultant-in-Charge and the Contractor within the limitations of time stipulated in the Contract documents and further to ensure good progress during the execution of the work. The physical progress report including photographs shall be submitted by the contractor on the prescribed format & the intervals (not exceeding one month) as decided by the Engineer in Charge.

16.3 If the work(s) be delayed by any of the following events/eventualities which directly or indirectly make it legally or physically impossible to carry-on of supplies or execution of works on the site, and which are unforeseeable or unusual as per norms/trends/practices in the trade:

- i) **Force-Majeure** or
- ii) Abnormally bad weather, or
- iii) Serious loss or damage by fire, or
- iv) Civil commotion, Rioting, WAR or local commotion of workmen, strike or lockout, affecting any or the trades employed on the work, or other similar issues of Law & Order,
- v) Delay on the part of other contractors or tradesmen engaged by Consultant-in-Charge in executing work not forming part of the Contract, or
- vi) Non-availability of stores, which are responsibility of the DAV or, Lack of statutory approvals, that are beyond the scope of works of the contractor
- vii) Non-availability or break down of tools and plant to be supplied or supplied by DAV or,
- viii) Any other cause which, in the absolute discretion of the DAV, is beyond the Contractor's control, then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Consultant-in-Charge within 07 days but shall nevertheless use constantly his best endeavour to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer- in-Charge to proceed with the works.

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

17.0 TIME SCHEDULE & PROGRESS

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

17.2 The contractor shall also furnish, as per the time-schedule as intimated/directed by Consultant-in-Charge of DAV in LoA or afterwards in the kick-off meeting, a CPM network/ PERT chart/ Bar Chart for completion of work within stipulated time. This will be duly got approved from, Engineer-in-charge of DAV *and shall be in conformity with Execution Milestones included in 'SCC' or the*

'Annexure-I-A to NIT'. This approved Network/ PERT Chart shall form a part of the agreement. Achievement of milestones as well as total completion has to be within the time period allowed.

- 17.3 Contractor shall mobilize and employ sufficient resources for completion of all the works as indicated in the agreed BAR CHART/PERT Network. No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule even though the time schedule is approved by the Consultant-in-Charge.
- 17.4 During the currency of the work the contractor is expected to adhere to the time schedule on mile stone and total completion and this adherence will be a part of Contractor's performance under the contract. During the execution of the work contractor is expected to participate in the review and updating of the Network/BAR CHART undertaken by the DAV. These reviews may be undertaken at the discretion of Consultant-in-Charge either as a periodical appraisal measure or when the quantum of work order on the contractor is substantially changed through deviation orders or amendments. The review shall be held at site or any of the offices of DAV/owner /consultant at the sole discretion of DAV. The contractor will adhere to the revised schedule thereafter. The approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension of time to the contractor.
- 17.5 Contractor shall submit (as directed by Consultant-in-Charge) progress reports on a computer-based program (program and software to be approved by Engineer- in-Charge) highlighting status of various activities and physical completion of work. The contractor shall send completion report with as built drawings to the office of Consultant-in-Charge, of DAV in writing within a period of 30 days of completion of work.

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

18.0 TAXES AND DUTIES

- 18.1 The contract price is inclusive of all taxes, duties, cess and statutory levies payable under any law (as applicable on the date of submission of bid) by the contractor in connection with execution of the contract.

The contract price will be adjusted prospectively for any increase / decrease in the GST rate on works contract notified by Government of India.

- 18.2 Notwithstanding anything contained in clause 18.1, the contractor shall ensure payment of appropriate taxes, cess, levies, etc. on the items of supplies and works made good under the contract. The contractor shall take/obtain registration under the applicable enactment levying tax/levy/cess on supply of goods or services under the contract and issue invoice having all the particulars prescribed under the applicable provisions of the law, including. description of goods/services, rate and amount of tax paid or payable on the supplies made under the contract, so that DAV can avail credit of such tax, wherever applicable. The contractor shall comply with all applicable provision of Goods and Service Tax (GST) levied by Union Government and State Governments (CGST, UTGST, SGST and IGST). The contractor shall get himself registered and discharge his obligations for payment of taxes, filing of returns etc. under the appropriate provisions of law in respect of all the taxes, duties, levies, cess, etc.

DAV would have right to seek necessary evidence that the contractor is registered under the law and duly discharging its obligations under the tax law, enabling DAV to avail input tax credit.

Whenever interest is payable on reversal of Input Tax Credit (ITC) for non-payment of value and tax of supply under GST Act, due to any default on contractor's part (i.e due to poor performance/quality or non-fulfilment of terms of contract), the amount of interest so levied on DAV shall be recovered from the contractor.

- 18.3 In case any law requires DAV to pay tax/levy/cess on the contract price under any law for the time being in force, (such as GST, royalty on minerals, works contract taxes on reverse charge basis, etc.) the amount of tax/levy/cess so deposited by DAV on this behalf would be considered as paid to the contractor and, accordingly, the price payable to the contractor would stand reduced to that extent.
- 18.4 In case the contractor does not deposit or file the tax/levy/cess with appropriate authority/department, and which is payable-by or levied on contractor on account of execution of this contract, or if any such tax/levy/cess (such as GST, WCT, royalty on minerals, etc.) is deposited-by or recovered-from DAV but is actually payableby or levied-on the contractor, or, if the contractor has not provided the invoice or other relevant document pertaining to deposit/credit of such tax/levy/cess to DAV, showing/proving deposit of appropriate the amount of tax/levy/cess, or has not uploaded the document in computerised tax network as per prevailing law, leading to non-availability of inputs credit of the tax to DAV, the amount equivalent to such tax shall be deducted from the contract price.
- 18.5 Stamp duty and registration charges, if any, payable on the executed contract document, shall be borne by the contractor.
- 18.6 Tax deduction at source, if any, shall be made by DAV as per law applicable from time to time from the amount payable to the contractor.

19.0 INCOME TAX DEDUCTION (TDS)

Income tax deductions shall be made from all payments made to the contractor including advances, in respect of the work/ project undertaken by the contractor, in accordance with the provisions of the Income Tax Act and Rules made there under prevailing and in force from time to time.

20.0 ROYALTY ON MATERIALS:

- 20.1 The contractor shall deposit royalty and obtain necessary permit for supply of *bajri*, stone, *kankar*, sand and other materials etc. from the local authorities and quoted rates shall be inclusive of royalty.
- 20.2 The contractor shall be deemed to have inspected the site, its surrounding and acquainted itself with the nature of the ground, accessibility of the site and full extent and nature of all operations necessary for the full and proper execution of the contract, space for storage of materials, constructional plant, temporary works, restrictions on the plying of heavy vehicles in area, supply and use of labour, materials, plant, equipment and laws, rules and regulations, if any, imposed by the local authorities.
- 20.3 The rates and prices to be tendered in the bill of quantities are for completed and finished items of works and complete in all respects. It will be deemed to include all constructional plant, labor, supervision,

materials, transport, all temporary works, erection, maintenance, contractor's profit and establishment/overheads, together with preparation of designs & drawings pertaining to casting yard, shop drawing, fabrication drawing (if required), staging form work, stacking yard, etc. all general risk, all taxes, royalty, duties, cess, octroi and other levies, insurance liabilities and obligations set out or implied in the tender documents and contract.

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

21.0 INSURANCE OF WORKS ETC

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

- a. The work and the temporary works to the full value of such works.
- b. The materials, constructional plant, centering, shuttering and scaffolding materials and other things brought to the site for their full value.

The contractor is required to submit the original policy document and the receipt for payment of the current premium to DAV.

In case, the contract value gets enhanced by more than 25 percent due to any deviation /variation/ extra items, the contractor shall submit additional insurance policy for the enhanced contract value.

21.2 INSURANCE UNDER WORKMEN COMPENSATION ACT

Contractor is required to take adequate insurance coverage as prescribed under the Workman Compensation Act, 1923 amended from time to time from an approved insurance company and pay premium charges thereof. The contractor is required to submit the original policy document and the receipt for payment of the current premium to DAV. If the Contractor fails to effect or keep in force or provide adequate cover in the Insurance policies mentioned in this sub-clause, or any other insurance which he might be required to effect under the Contract, then in such cases, the Employer may effect and keep in force any such insurance or further insurance and the cost and expenses incurred by him in this regard shall be deductible from payments due to the Contractor or from the Contractor's Performance Guarantee.

21.3 THIRD PARTY INSURANCE

Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from an approved insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of DAV/owner/client, arising out of the execution of the works or temporary works.

The contractor is required to submit the original policy document and the receipt for payment of the current premium to DAV.

Consultant-in-charge has to ensure that Insurance policies are submitted by the contractor within 15 days from the date of issue of LOA. In case of failure of the contractor to obtain contractors all risk policy, insurance under workman compensation act and third party insurance as described above, DAV reserves the right of forfeiture of the Performance Bank Guarantee.

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

- 21.4 (Refer clause 73.2) The contractor shall at all times indemnify DAV and Owner against all claims, damages or compensation under the provision of Payment of wages act-1936, Minimum Wages Act-1948 Code on Wages, 2019, Employer's liability Act-1938, the workmen's compensation Act-1947, Industrial Disputes Act-1947 and Maternity Benefit Act-1961 or any modifications thereof or any other law in force or as consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the contractor be paid to compromise or compound any such claim. Without limiting his obligations and liabilities as above provided, the contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act 1923 or any modification thereof or any other law relating thereto.

22.0 PAYMENTS

- 22.1 All running/interim payments shall only be made to the contractor after verification of RA bills by consultant-in-charge.

RA bills can be raised by contractor

- i) for works of not less than 10% value of total contract, executed after latest RA bill.
- ii) Or not less than one month after the latest RA bill.
- iii) It is upto the consultant-in-charge to consider the better out of i) & ii), to ensure the quality and pace of work.

- 22.2 All running/interim payments shall only be made as per the Payment Stages and Execution milestone included in this tender document, and shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and/or accepted by DAV and shall not preclude the recovery for bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the Contract, or any part thereof, in this respect, or the accruing of any claim, nor shall it conclude, determine or affect in any way the powers of the DAV under these conditions or any of them as to the final settlement and adjustments of the accounts or otherwise, or in any other way vary/ affect the contract. The final bill shall be submitted by the contractor within three months of the completion of work, otherwise DAV's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on contractor. Each Running Bills should be accompanied by tax invoices as per applicable tax laws.

It may be noted that GST shall be recoverable as extra on all applicable

recoveries e.g. Workmen recovery, LD etc. made from the bills of contractor.

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

- 22.4 All payments shall be released by way of e-transfer through RTGS in India directly at their Bank account by DAV.
GST shall also be recoverable as extra from all applicable recoveries e.g. Workmen recovery, LD etc. made from the bills of contractor.

22.5 FINANCIAL ASSISTANCE TO THE CONTRACTOR

- 22.5.1 Notwithstanding the provision of clause 22.2 above or any other clause that may be contrary in any part of the GCC, Interest Bearing Financial Assistance up to maximum of 90% of net amount payable of their verified Running Account Bill pending outstanding since last 15 days, may be provided to the contractor at the sole Discretion of DAV, if requested by him only in case DAV is not able to pay to the contractor due to non-receipt of proportionate funds from the authorities of DAV. The grant of this Financial Assistance is however subject to the condition that Consultant-in-Charge shall get himself satisfied that such a Financial Assistance would result in achieving major progress of the project and that the payment from client is going to be received in a short span of time.
- 22.5.2 The Financial Assistance shall be simple interest bearing @ Interest as applicable on Mobilization Advance. Recovery of such Financial Assistance including interest shall be made by the adjustment from the contractor's bills once DAV has received its respective dues from the clients.
- 22.5.3 An undertaking to the effect that it is only the sole willingness of contractor to avail the Financial Assistance indemnifying DAV against any future claim on account of the Financial Assistance granted may be obtained as per prescribed format.

22.6 DIRECT PAYMENT TO SUB-CONTRACTOR / VENDOR

- 22.6.1 DAV shall not make payments directly to any vendor or sub-contractor, but may consider on specific request and authorisation by the contractor in writing in exceptional circumstances, such as Initiation of Insolvency proceedings against Contractor, Freezing of Contractor's Bank Account, Automatic debit from Contractor's Bank Account by the bank or any other creditor etc., whereby contractor may be unable to make prompt payment to the sub-contractor or vendor, which affects the supplies of material & progress of work.
- 22.6.2 DAV may at its entire discretion or on advice of clients decide to make direct payments to Vendors/ sub-contractors/ labour in circumstances when the contractor is suspected to diversion of funds/ payments from DAV to other activities/ projects instead of meeting the project liabilities.
- 22.6.3 Where DAV agrees to release payment directly to sub-contractor, the contractor shall submit an indemnity bond in the prescribed format, verify the bill/payment, and provide all payment related details. Any such direct payment to vendor or sub-contractor shall be made on account (in the name) of the contractor and secured against the final bill. Further, such payments shall not relieve the contractor from any of his liabilities, tax or any other obligations under the contract. On receipt of such Indemnity Bond, DAV shall issue a "comfort letter" to vender/sub-contractor and copy to main

contractor.

- 22.6.4 In case the direct payment is made to vendor/ sub-contractor for procurement of Plant & Machinery/ Centering, Shuttering & Staging/ dewatering equipments/ Pumps etc. which are in required to be procured but are not billable to the contractor and only recoverable, the said direct payment shall be treated as an advance to the contractor and interest at the same rate as Mobilization Advance shall be charged to the contractor till the time the entire direct payment is recovered from the contractors bills.
- 22.6.5 The Decision of DAV shall be final and binding whether to accept or deny direct payments to vendors/ sub-contractors.

23.0 MEASUREMENTS OF WORKS

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

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

Provided further that, In case of Cancellation/Determination of Contract in Full or in Part in accordance with clause 11.0 (and its sub-clauses), following methodology shall be adopted in respect of measurements in addition to what has been mentioned in foregoing: -

- All measurements and levels shall be taken jointly by the Consultant-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Consultant-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.
- If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Consultant-in-Charge or his representative, the Consultant-in-Charge and DAV shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Consultant-in-Charge or his representative shall be deemed to be accepted by the Contractor. The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

24.0 COMPUTERISED MEASUREMENT BOOKS

Consultant-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract. All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book as per the format of DAV so that a complete record is obtained of all the items of works performed under the contract. All such

measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Consultant-in-Charge or his authorized representative as per interval or program fixed in consultation with Consultant-in-Charge or his authorized representative.

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

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Consultant-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit it to DAV. **All the required documents e.g. measurement sheet, quality test reports, ESIC/EPF challans, Tax invoice, theoretical v/s actual consumption of material etc. shall also be submitted to DAV. No payment of RA bill shall be released until all obligations and documents as above as per direction of Consultant-in-charge are submitted to DAV.**

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

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

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

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

25.0 WITHHOLDING AND LIEN IN RESPECT OF SUMS DUE FROM CONTRACTOR

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

25.2 It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or DAV will be kept withheld or retained as such by the Engineer-in-Charge or DAV till the claim arising out of or under the contract is determined by the competent court and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the DAV shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company, as the case may be whether in his individual capacity or otherwise. DAV shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc, to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for DAV to recover the same from him in the manner prescribed in sub-clause 25.1 of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by DAV to the contractor, without any interest thereon whatsoever.

25.3 LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS

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

sum of money withheld or retained under this clause and duly notified as such to the contractor.

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

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

The contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work assigned by the Consultant-in-Charge.

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

27.0 MATERIALS TO BE PROVIDED BY THE CONTRACTOR

The contractor shall, at his own expense, provide all materials, required including Cement & Steel for the works. The contractor shall at his own expense and without delay; supply to the Consultant-in-Charge samples of materials to be used on the work and shall get the same approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Consultant-in-Charge furnish proof, to the satisfaction of the Consultant-in-Charge regarding compliance of the material so procured. The contractor shall submit the samples of materials to be tested or analysed and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Consultant-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance and cost in obtaining the right and visit to such access. The Consultant-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Consultant-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Consultant-in-Charge shall also have full power to require other proper materials to be substituted thereof and in case of default, the Consultant-in-Charge may cause the same to be supplied and all costs which may require such removal and substitution shall be borne by the contractor.

The contractor shall ensure that the materials are brought to site in original sealed containers or packing bearing manufacturer's markings and brands (except where the quantity required is a fraction of the smallest packing). Materials not complying with this requirement shall be rejected. The empty containers of such materials shall not be destroyed/disposed-off without the permission of DAV.

The contractor shall produce receipted vouchers showing quantities of the materials to satisfy Consultant-in-Charge that the materials comply with the specifications. These vouchers shall be endorsed, dated and signed by the contractor. A certified copy of each such vouchers signed both by DAV and the Contractor shall be kept on record.

28.0 MATERIALS AND SAMPLES

- 28.1 The materials/products used on the works shall be one of the approved make/ brands out of list of manufacturers / brands /makes given in the tender documents. The contractor shall submit samples/ specimens out of approved makes of materials/ products to the Consultant-in-Charge for prior approval. In exceptional circumstances Consultant-in-Charge may allow alternate equivalent makes/brands of products/ materials at his sole discretion. The final choice of brand / make shall remain with the Engineer-in-Charge, whose decision in this matter shall be final and binding and nothing extra on this account shall be payable to the Contractor. In case single brand/ make are mentioned, other equivalent makes/ brands may be considered by the Consultant-in-Charge. In case of variance in CPWD/IS/BIS Specifications from approved products/makes specification, the specification of approved product/make shall prevail for which nothing shall be paid extra to the Contractor. In case no make or brand of any materials, articles, fittings and accessories etc. is specified, the same shall comply with the relevant Indian Standard Specifications and shall bear the ISI/BIS mark. The consultant of DAV and the owner shall have the discretion to check quality of materials and equipment to be incorporated in the work, at source of supply or site of work and even after incorporation in the work. They shall also have the discretion to check the workmanship of various items of work to be executed in this work. The contractor shall provide the necessary facilities and assistance for this purpose.
- 28.2 The above provisions shall not absolve the contractor from the quality of final product and in getting the material and workmanship quality checked and approved from the Consultant-in-Charge of DAV.
- 28.3 The contractor shall well in advance, produce samples of all materials, articles, fittings, accessories etc. that he proposes to use and get them approved in writing by DAV. The materials, articles etc. as approved shall be labelled as such and shall be signed by DAV and the Contractor's representative.
- 28.4 The approved samples shall be kept in the custody of the consultant-in-charge of DAV till completion of the work. Thereafter the samples except those destroyed during testing shall be returned to the contractor. No payment will be made to the contractor for the samples or samples destroyed in testing.
- 28.5 The brands of all materials, articles fittings etc. approved together with the names of the manufacturers and firms from which supplies have been arranged shall be recorded in the site order book.
- 28.6 The contractor shall set up and maintain at his cost, a field testing laboratory for all day to day tests at his own cost to the satisfaction of the

Consultant-in-Charge. This field testing laboratory shall be provided with equipment and facilities to carry out all mandatory field tests as per MORTH/CPWD (as the case may be) specifications. The laboratory building shall be constructed and installed with the appropriate facilities, Temperature and humidity controls shall be available wherever necessary during testing of samples. All equipment shall be provided by the Contractor so as to be compatible with the testing requirements specified. The Contractor shall maintain all the equipment in good working condition for the duration of the contract. The Contractor shall provide approved qualified personnel to run the laboratory for the duration of the Contract. The number of staff and equipment available must at all times be sufficient to keep pace with the sampling and testing programme as required by the Consultant-in-Charge. The Contractor shall fully service the site laboratory and shall supply everything necessary for its proper functioning, including all transport needed to move equipment and samples to and from sampling points on the site, etc. The Contractor shall re-calibrate all measuring devices whenever so required by the Consultant-in-Charge and shall submit the results of such calibration without delay. All field test shall be carried out in the presence of DAV's representative. All costs towards samples, materials, collection, transport, manpower, testing etc. shall be borne by the Contractor and are deemed to be included in the rates quoted by him in the bill of quantities.

The contractor(s) shall display the calibration certificate of each of the equipment at the location of equipment & shall get recalibrated at least one week before its expiry date.

29.0 MATERIALS PROCURED WITH THE ASSISTANCE OF DAV

If any material for the execution of this contract is procured with the assistance of DAV either by issue from its stores or purchase made under orders or permits or licenses obtained by DAV, the contractor shall hold and use the said materials economically and solely for the purpose of this contract and shall not dispose them without the permission of Consultant-in-charge. The contractor, if required by the DAV, shall return all such surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination on whatsoever reason, on being paid or credited such price as the Consultant-in-Charge shall determine having due regard to the conditions of materials. The price allowed to the contractor, however, shall not exceed the amount charged to him excluding the element of storage charges which shall be 10% of the cost charged to contractor. The decision of the Consultant-in-Charge shall be final and conclusive.

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

30.0 CONTRACTOR TO SUPPLY TOOLS & PLANTS

The contractor shall provide at his own cost all materials, machinery, tools & plants as require for completion of work. In addition to this, appliances, implements, other plants, ladders, inspection lifts, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Consultant-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement or examination at any time and from time to time of

the work or materials. Failing his so doing, the same may be provided by the Consultant-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

31.0 MOBILIZATION OF MEN, MATERIALS AND MACHINERY:

- 31.1 All expenses towards mobilization at site and de-mobilization including bringing in equipment, work force, materials, dismantling the equipments, clearing the site etc. shall be deemed to be included in prices quoted and no separate payment on account of such expenses shall be entertained.
- 31.2 The contractor shall mobilise all tools, machinery, equipment, including installation of Reverse Osmosis plant for timely and safe completion of work as per applicable quality standards and specifications mentioned in the contract. **The Contractor shall mandatorily install RO plant with all Batching plants irrespective of the value of project. If RMC is being used at any site, then the availability of RO plant at RMC plant must be ensured.** The contractor shall ensure un-interrupted supplies of water & electricity at site for construction and related purposes, and shall obtain temporary water & electricity connections **at its own.** **For small activities other than concreting,** the contractor shall install water-purification equipment, to bring it in conformity with required quality standards.
- 31.3 It shall be the responsibility of the contractor to obtain the approval for any revision and/or modification desired by him from DAV before implementation.
- 31.4 The procurement and supply in sequence and at the appropriate time of all materials and consumable shall be entirely the contractor's responsibilities and his rates for execution of work shall be inclusive of supply of all these items.
- 31.5 It is mandatory for the contractor to provide safety equipment and gadgets to his all workers, supervisory and Technical staff engaged in the execution of the work while working. The minimum requirement (but not limited to) shall be gum boots, safety helmets, Rubber hand gloves, face masks, safety nets, safety belts, goggles etc. as per work requirements. Sufficient nos. of these equipment and gadgets shall also be provided to DAV by the contractor at his own cost for use of DAV Officials and/ or workforce while working/supervision of work at site. No staff/ worker shall be allowed to enter the site without these equipments/ gadgets.

The cost of the above equipment/ gadgets are deemed to be included in the rates quoted by the contractor for the items & works as per Bill of Quantities and contractor shall not be entitled for any extra payment in these regard. The above norm is to be strictly complied with at site. In case the contractor is found to be deficient in providing Safety Equipment/Gadgets in the opinion of Consultant-in-Charge, the Consultant-in-Charge at his option can procure the same at the risk & cost of contractor and provide the same for the use of worksite and shall make the recoveries from the bills of the contractor for the same. The contractor shall abide by all rules & regulations pertaining to Health, Safety and Environment.

- 31.6 All designs, drawings, bill of quantities, etc., except Bar Bending Schedule, Shop & Fabrication drawings, for all works shall be supplied to the contractor for their scope of work all buildings services and development works by DAV in phased manner as the works progress. However, it shall be the duty and responsibility of the contractor to bring to the notice of the

DAV in writing as to any variation, discrepancy or any other changes required and to obtain revised drawings and designs and / or approval of the DAV in writing for the same.

- 31.7 One copy of contract documents including drawings furnished to the contractor shall be kept at the site and the same shall at all reasonable times be available for inspection.
- 31.8 All materials, construction plants and equipment etc. once brought by the contractor within the project area, will not be allowed to be removed from the premises without the written permission of the Consultant-in-Charge. Similarly, all enabling works built by the contractor for the main construction undertaken by him, shall not be dismantled and removed without the written authority of the DAV.
- 31.9 Contractor shall have to prepare the Bar Bending Schedule, shop and fabrication drawings free of cost, if required for any of the items of work. Five copies of these drawings each including for revision will be submitted to DAV for approval. Before executing the item, shop drawings and bar bending schedule should be approved by DAV.
- 31.10 DAV shall supply Work Force in the various categories to assist the contractor in execution of the works on recoverable basis as per provision mentioned elsewhere in the contract.
- 31.11 All contractors' plant, machinery and equipment shall be kept in perfect condition during currency of the contract.

32.0 QUALITY ASSURANCE PROGRAMME

To ensure that the services under the scope of this contract are in accordance with the specifications, the Contractor shall adopt Quality Assurance Programme to control such activities at the necessary points. The contractor shall prepare and finalize such Quality Assurance Programme within 15 days from date of issue Letter of Award. DAV shall also carryout quality audit and quality surveillance of systems and procedures of Contractor's quality control activities. A Quality Assurance Programme of Contractor shall generally cover the following:

- a) His organization structure for the management and implementation of the proposed Quality Assurance Program.
- b) Documentation control system.
- c) The procedure for purpose of materials and source inspection.
- d) System for site controls including process controls.
- e) Control of non-conforming items and systems for corrective actions.
- f) Inspection and test procedure for site activities.
- g) System for indication and appraisal of inspection status.
- h) System for maintenance of records.
- i) System for handling, storage and delivery.

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

All the quality reports (i.e. checklists & registers) shall be maintained /submitted by the Contractor as per DAV QA-QC manual. Checklists & Registers enclosed in the QA-QC manual shall be followed while carrying out Construction activities (items). If any item is not covered by the Checklist/Register, the Format for the same may be developed and submitted to Consultant-in-Charge for approval and the same shall be adopted. These filled in reports shall be duly signed by representatives of contractor and DAV. All the costs associated with Printing of Formats and testing of materials required as per technical specifications or by Consultant-in-Charge shall be included in the Contractor's quoted rates in the Schedule/ Bill of quantities.

33.0 CONTRACT COORDINATION PROCEDURES, COORDINATION MEETINGS AND PROGRESS REPORTING

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

- 33.1 For the contracts having tendered value Rs. 100 Crore and above, the contractor shall arrange and provide a system of real time monitoring of project by installing adequate numbers of good quality IP based cameras at all critical locations of the project having Pan/ Tilt/ Zoom (PTZ) capability duly integrated with cloud thereby providing facility of accessing photographs showing progress of construction from anywhere and anytime to monitor the status of the project.

34.0 COMPLETION CERTIFICATE AND COMPLETION PLANS

- 34.1 Within ten days of the completion of the work, the contractor shall give notice of such completion to the Consultant-in-Charge and within thirty days of the receipt of such notice, the Consultant-in-Charge shall inspect the work and if there is no defect in the work, RBG/ SBG Head shall furnish the contractor with a final certificate of completion,
- 34.2 But no final certificate of completion shall be issued, nor shall the work be considered to be complete until
- 34.2.1 the contractor shall have
- removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s)
- And
- cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be

executed or of which he may have had possession for the purpose of the execution; thereof,

AND

34.2.2 Not until the work shall have been measured by the Consultant-in-Charge.

34.3 If the contractor shall fail to comply with the requirements of this Clause 35.2(i) above then,

(A) The Consultant-in-Charge may at the expense of the contractor

(i) remove such scaffolding, surplus materials and rubbish etc.,

and/or

(ii) dispose of the same as he thinks fit and clean off such dirt as aforesaid,

AND,

(B) The contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof less actual cost incurred on removal of materials / debris / malba etc.

34.4 The Contractor shall be responsible for handing over of project including signing of inventories by DAV and shall obtain final work completion from DAV in the attached format at Annexure- 4.8A. No payment of final bill shall be released to the contractor until final work completion certificate is obtained from DAV.

34.5 The contractor shall submit completion plan as required vide General Specifications for Electrical and other works as applicable within thirty days of the completion of the work. In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs. 25,00,000/- (Rs. Twenty Five Lakhs only) as may be fixed by the Consultant-in-Charge concerned and in this respect the decision of the Consultant-in-Charge shall be final and binding on the contractor.

35.0 PROHIBITION OF UNAUTHORISED CONSTRUCTION & OCCUPATION

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

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

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

36.0 FORECLOSURE OF CONTRACT BY DAV/OWNER

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

37.0 DEFECTS LIABILITY PERIOD

The contractor shall be responsible for the rectification of defects in the works for a period twenty four (24) months from the date of taking over of the works by the DAV or clients whichever is later. Any defects discovered and brought to the notice of the contractor forthwith shall be attended to and rectified by him at his own cost and expense. In case the contractor fails to carry out these rectifications, the same may without prejudice to any other right or remedy available, be got rectified by DAV at the cost and expense of the contractor

38.0 SUBLETTING / SUB-CONTRACTING

- 38.1 The sub-contracting, excluding design work shall be limited to 40% of the contract value. The value of a sub-contract, other than for design work and bought out items as and when awarded, should be intimated by the Contractor to the Consultant-in-Charge and it should also be certified that the cumulative value of the sub-contracts awarded so far is within the aforesaid limit of 40%. A copy of the contract between the Contractor and sub-contractor shall be given to the Consultant-in-Charge within 15 days of signing and in any case not later than 7 days before the sub-contractor starts the work and thereafter the Contractor shall not carry any modification without the consent in writing of the Consultant-in-Charge. The terms and conditions of sub-contracts and the payments that have to be made to the sub-contractors shall be the sole responsibility of the contractor. Payments to be made to such sub-contractors will be deemed to have been included in the contract price of the Contractor. However, for major sub-contracts (each costing Rs. 50 Lacs or above), it will be obligatory on the part of the Contractor to obtain consent of DAV. DAV will give its consent after assessing and satisfying itself of the capability, experience and equipment resources of the sub-contractor. In case DAV intends to withhold its consent, then DAV will inform the Contractor within 15 days to enable the Contractor to make alternative arrangement to fulfil his programme. Sub-contracting any part of work, however, does not absolve contractor from his responsibility for quality of final product.
- 38.2 The contractor may entrust specialist items of works like MEP services, HVAC, Lifts, Building Management System, Water Proofing, and Data & Communication networking, interiors, landscaping etc. to the agencies specialized in the specific trade. The contractor shall give the names and details of such firm whom it is going to employ for approval of DAV. These details shall include the expertise, financial status, technical manpower, equipment, resources and list of works executed and on hand of the specialist agency. Further, prior written approval is required from DAV to deploy such agency / sub-contractor.
- 38.3 The terms & conditions applicable to the contractor in respect of the proposed sub-contract, the same terms & conditions shall be imposed on the sub-contractor to enable the contractor to comply with his obligations under the contract with DAV.

The sub-contractor should fulfill the qualifying criteria for contractor for the proposed value of sub-contract similarly provided in the NIT of the project.

- 38.4 Notwithstanding any consent to sub-contract given by the Consultant-in-Charge if in his opinion it is considered necessary, the Consultant-in-Charge shall have full authority to order the removal of any sub-contractor from the site or off-site place of manufacture or storage.

39.0 FORCE MAJEURE

Any delay in or failure to perform of either party, shall not constitute default so as to give rise to any claim for damages, to the extent such delay or failure to perform is caused by an act of God, or by fire, explosion, flood or other natural catastrophe, governmental legislation, orders or regulation etc. Failure of the client / owner to hand over the entire site and / or release funds for the project, to DAV, shall also constitute force majeure. The time for performance of the obligation by the parties shall be deemed to be extended for a period equal to the duration of the force majeure event. Both parties shall make their best efforts to minimize the delay caused by the force majeure event. If the failure / delay of the client /owner in handing over the entire site and / or in releasing the funds continues even on the expiry of the stipulated date of completion, DAV, may, at the request of the contractor, foreclose the contract without any liability to either party. In the event of such foreclosure, the contractor shall not be entitled to any compensation whatsoever. If prior to such foreclosure the contractor has brought any materials to the site, the Consultant-in-Charge shall always have the option of taking over of all such materials at their purchase price or at the local current rates, whichever is lower.

40.0 NO COMPENSATION CLAUSE

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

41.0 DIRECTION FOR WORKS

- 41.1 All works under the contract shall be executed under the direction and subject to approval in all respect of the Consultant-in-Charge of DAV who shall be entitled to direct at whatever point or points and in whatever manner works are to be commenced and executed.
- 41.2 The Consultant-in-Charge and his representative shall communicate or confirm their instructions to the contractor in respect of the execution of work during their site inspection in a 'Works Site Order Book' maintained at the site office of Consultant-in-Charge. The contractor or his authorized representative shall confirm receipt of such instructions by signing against the relevant orders in the book.

42.0 WORK IN MONSOON AND RAIN

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

43.0 WORK ON SUNDAYS, HOLIDAYS AND DURING NIGHT

For carrying out work on Sunday and Holidays or during night, the contractor will approach the Consultant-in-Charge or his representative at least two days in advance and obtain his permission. The Consultant-in-Charge at his discretion can refuse such permission. The contractor shall have no claim

on this account whatsoever. If work demand, the contractor shall make arrangements to carry out the work on Sundays, Holidays and in two, three shifts with the approval of Consultant-in-Charge at no extra cost to DAV.

44.0 WATER AND ELECTRICITY

The contractor shall make his own arrangement for Water (conforming to quality /standard prescribed for the particular use that water is brought into) & Electrical Power for construction and related purposes, make standby arrangement at his own cost, and pay requisite charges.

45.0 LAND FOR LABOUR HUTS/ SITE OFFICE AND STORAGE ACCOMMODATION

- 45.1 The contractor may construct temporary office, storage, accommodation and labour huts within the site premises where the space is available at site. In case, where surplus land is not available within the site and/or not permitted by the client, the contractor shall arrange the land for temporary office, storage, accommodation and labour huts at his own cost and is responsible for taking the clearance of local authorities, if required, for setting up/construction of labour camp and same is deemed to be included in the rates quoted by the contractor for the works. The contractor shall check the availability of land before tendering and no claim whatsoever in this regard shall be entertained. The contractor shall ensure that the area of labour huts is kept clean and sanitary conditions are maintained as laid down by the local authorities controlling the area. The land for the above purposes shall be so placed that it does not hinder the progress of work or access to the worksite. The vacant possession of the land used, for the purpose shall be given back by contractor after completion of the work.

The security deposit of the contractor shall be released only after contractor demolishes all structures including foundations and gives back clear vacant possession of this land.

- 45.2 In the event the contractor has to shift his labour campus at any time during execution of the work on the instructions of local authorities or as per the requirement of the work progress or as may be required by DAV, he shall comply with such instructions at his cost and risk and no claim whatsoever shall be entertained on this account.

46.0 WATCH, WARD AND LIGHTING OF WORK PLACE

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

47.0 CEMENT AND CEMENT GODOWN

Cement shall be procured by Contractor confirming to BIS: 8112 and / or BIS: 1489 Specification latest edition or higher Grade as per approved list attached. The cement shall be procured directly from the reputed manufacturers/ stockiest as per approved list of DAV. Relevant vouchers and test certificates will be produced as and when required. The cement shall be stored by the contractor in such suitable covered and lockable stores, well protected from climate and atmospheric effects. The cement go-down shall be constructed by the contractor as per the drawing in CPWD specifications at his own cost. The cement will remain under double lock, one from DAV and other from Contractor. The cement in bags shall be stored in go-downs in easy countable position. Cement bags shall be used on first in first out basis. Cement stored for beyond 90 days will be required to be tested at contractors cost, before use in works.

48.0 STEEL & STEEL STOCKYARD

Steel conforming to BIS specifications (latest edition) shall be procured by the contractor directly from reputed manufacturers/producers as per approved list of DAV. Relevant vouchers & test certificates will be produced by the contractor. Reinforcement steel, structural steel shall be stored and stacked in such manner so as to facilitate easy identification, removal etc. The contractor shall take proper care to prevent direct contact between the steel and the ground/water for which he shall provide necessary arrangement at his own cost including ensuring proper drainage of area to prevent water logging as per directions of the Consultant-in-Charge. Steel shall also be protected, by applying a coat of neat cement slurry over the bars for which no extra payment shall be made. Test certificates for each consignment of steel shall be furnished and tests to be got carried out from the authorized laboratory as per the directions of Consultant-in-Charge, before incorporating the materials in the work.

49.0 BITUMEN WORK

The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting started and shall hypothecate it to the Consultant-in-Charge. Although the materials are hypothecated to DAV the Contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the written consent of the Consultant-in-Charge.

If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution for reasons other than authorized changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Consultant-in-Charge shall be made and the material return to the contractors.

50.0 SCHEDULE OF QUANTITIES / BILL OF QUANTITIES

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

51.0 WATER PROOF TREATMENT AND ANTI-TERMITE TREATMENT

- 51.1 The water proof treatment shall be of type and specifications as given in the schedule of quantities and/or specifications/ design-basis-report mentioned in tender documents.
- 51.2 The water-proofing treatment of basement, roofs, water retaining areas and termite infestation shall be and remain fully effective for a period of not less than 10(Ten) years to be reckoned from the date of expiring of the Defect Liability period, prescribed in the contract. At any time during the said guarantee period if DAV finds any defects in the said treatment or any evidence of re-infestation, dampness, leakage in any part of buildings or structure and notifies the contractor of the same, the contractor shall be liable to rectify the defect or give re-treatment and shall commence the work or such rectification or re-treatment within fifteen days from the date of issue of such letter to him. If the contractor fails to commence such work within the stipulated period, the DAV may encash the Bank Guarantee submitted by the contractor in this regard and gets the same done by another agency and the decision of the Consultant-in-Charge of DAV shall be final and binding upon him.

- 51.3 Re-treatment if required shall be attended to and carried out by the Contractor within fifteen days of the notice from Consultant-in-Charge of DAV.
- 51.4 The DAV reserves the right to get the quality of treatment checked in accordance with recognized test methods and in case it is found that the chemicals with the required concentration and rate of application have not been applied, or the water proofing treatment is not done as per specifications, the contractor will be required to do the re-treatment in accordance with the required concentration & specifications at no extra cost failing which no payment for such work will be made. The extent of work thus rejected shall be determined by DAV.
- 51.5 Water proofing and Anti-termite treatment shall be got done through approved / specialized agencies only with prior approval of Consultant-in-Charge.
- 51.6 The contractor shall make such arrangement as may be necessary to safe guard the workers and residents of the building against any poisonous effect of the chemicals used during the execution of the work.
- 51.7 During the execution of work, if any damage shall occur to the treatment already done, either due to rain or any other circumstances, the same shall be rectified and made good to the entire satisfaction of Consultant-in-Charge by the contractor at his cost and risk.
- 51.8 The contractor shall make his own arrangement for all equipments required for the execution of the job. The contractor whose tender is accepted shall submit a Bank Guarantee for a sum equivalent to *Fifty per cent (50%)* of the approximate cost of waterproofing work and anti-termite treatment as mentioned in Annexure 1 of the NIT, valid for five years from the expiry of Defect Liability Period. In addition, a Guarantee Bond on plain paper valid for 10 years from the expiry of defect liability period would also be submitted by the contractor. Security Deposit will be released only after submission of above mentioned Bank Guarantee and Guarantee Bond.

52.0 INDIAN STANDARDS

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

52.1 Use of Recycled Aggregate for Concrete at the Project:

The Contractor shall use Recycled aggregate (RA) and Recycled concrete aggregate (RCA) i.e. manufactured aggregate and other recycled products such as screened soil, manufactured sand, brick sub-base, concrete bricks, pavers, tiles etc from construction and demolition (C&D) waste, if available within 100 Km. from site of the work, in lean concrete, PCC and RCC and other related works at the project as per the guidelines specified in IS:383: 2016. He shall also maintain a separate record regarding quantum of recycled aggregate/ products used in the project.

The contractor shall execute the project in such a manner that the quantity of 'products made from recycled C&D waste' specified in "Annexure – 1" of the GCC (Contracting) (i.e. Memorandum to NIT) will be necessarily used in construction. In case the contractor fails to use the specified quantity of 'products made from recycled C&D waste', a penalty of Rs. 250 per MT of the shortfall will be levied on the contractor.

In situations where the prescribed quantity cannot be utilized by the contractor for reasons beyond his control, then the Engineer In-charge can waive-off the penalty for the shortfall.

52.2 Use of Fly Ash Products

As per MOE&F guidelines, the contractor shall use Fly Ash products such as cement, concrete, bricks, blocks, tiles etc. or similar products or a combination or aggregate of them for the projects fall within the radius of 300 kms from a coal or lignite based thermal power plant.

53.0 CENTERING & SHUTTERING

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

54.0 RECORDS OF CONSUMPTION OF CEMENT & STEEL

- 54.1 For the purpose of keeping a record of cement and steel received at site and consumed in works, the contractor shall maintain a properly bound register in the form approved by the DAV, showing columns like quantity received and used in work and balance in hand etc. This register shall be signed daily by the contractor's representative and DAV's representative.
- 54.2 The register of cement & steel shall be kept at site in the safe custody of DAV's Engineer during progress of the work. This provision will not, however, absolve the contractor from the quality of the final product.
- 54.3 In case cement or steel quantity consumed is lesser as compared to the theoretical requirement of the same as per MORTH/CPWD (as the case may be) specifications/ norms, the work will be devalued and/ or a penal rate (i.e. double the rate at which cement/ steel purchased last) recovery for lesser consumption of cement/ steel shall be made in the item rates of the work done subject to the condition that the tests results fall within the acceptable criteria as per MORTH/CPWD (as the case may be) specifications otherwise the work shall have to be dismantled and redone by the contractor at no extra cost. In case of cement, if actual consumption is less than 98% of the theoretical consumption, a recovery shall be Effected from the contractors' bills at the penal rate for the actual quantity which is lower than 98% of theoretical consumption.

55.0 TESTS AND INSPECTION

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

56.0 WORKS TO BE OPEN TO INSPECTION

All works executed or under the course of execution in pursuance of this contract shall at all times be open to inspection and supervision of the DAV.

The contractor shall provide safe and approachable access to the site/structure for inspections including installation of inspection lifts where the height of the building /structure is 25m or more. The expenditure incurred towards installation of inspection lifts is to be borne by the contractor and is deemed to be included in contractor's bid amount.

The work during its progress or after its completion may also be inspected, by Chief Technical Examiner of Government of India (CTE) and/ or an inspecting authority of State Government of State in which work is executed and/or by third party checks by owner/ clients. The compliance of observations/improvements as suggested by the inspecting officers of DAV/CTE/ State authorities/ Owners shall be obligatory on the part of the Contractor at the cost of contractor.

57.0 BORROW AREAS

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

58.0 CARE OF WORKS

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

59.0 CO-ORDINATION WITH OTHER AGENCIES

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

60.0 SETTING OUT OF THE WORKS

The contractor shall be responsible for the true and proper setting out of the works and for the correctness of the position, levels, dimensions and alignment of all parts of the works. If at any time during the progress of works, shall any error appear or arise in the position, levels, dimensions or alignment of any part of the works, the contractor shall at his own expenses rectify such error to the satisfaction of Consultant-in-Charge. The checking of any setting out or of any line or level by the engineers of DAV shall not in any way relieve the contractor of his responsibility for the correctness.

61.0 NOTICE BEFORE COVERING UP THE WORK

The contractor shall give not less than seven day notice before covering up or otherwise placing beyond the reach of measurement any work, to the Consultant-in-Charge in order that the same may be inspected and measured. If any work is covered up or placed beyond the reach of

inspection/measurement without such notice or his consent being obtained the same shall be uncovered at the contractor expenses and he shall have to make it good at his own expenses.

62.0 SITE CLEARANCE

- 62.1 The contractor shall ensure that the working site is kept clean and free of obstructions for easy access to job site and also from safety point of view. Before handing over the work to the DAV the contractor shall remove all temporary structures like the site offices, cement go-down, stores, labour hutments etc., scaffolding rubbish, debris etc. left over materials tools and plants, equipment etc., clean the site to the entire satisfaction of the Consultant-in-Charge. If this is not done the same will be got done by DAV at his risk and cost.
- 62.2 The contractor shall clean all floors, remove cement/ lime/ paint drops and deposits, clean joinery, glass panes etc., touching all painter's works and carry out all other necessary items of works to make the premises clean and tidy before handing over the building, and the rates quoted by the contractor shall be deemed to have included the same.

63.0 SET-OFF OF CONTRACTOR'S LIABILITIES

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

64.0 POSSESSION PRIOR TO COMPLETION

- 64.1 DAV shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be any acceptance of any work not completed in accordance with the contract agreement. If such prior possession or use by DAV delays the progress of work an equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly. The decision of DAV in such case shall be final binding and conclusive.
- 64.2 When the whole of the works or the items or the groups of items of work have been completed the contractor will give a notice to that effect to the Engineer in writing. The Engineer shall within 7 days of the date of receipt of such notice inspect the works and give instructions in writing to the contractor specifying the balance items of work which are required to be done by the contractor and shall also notify the contractor of any defect in the works affecting completion.
- 64.3 The contractor shall during the course of execution prepare and keep updated a complete set of 'as built' drawings to show each and every change from the contract drawings, changes recorded shall be countersigned by the Engineer-in-Charge and the contractor. Four copies of 'as built' drawings shall be supplied to DAV by the contractor within 30 days of the completion. All costs incurred in this respect shall be borne by the contractor.

65.0 EMPLOYMENT OF PERSONNEL

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

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

66.0 TECHNICAL STAFF FOR WORK

- 66.1 The contractor shall employ at his cost the adequate number of technical staff during the execution of this work depending upon the requirement of work. For this purpose, the numbers to be deployed, their qualification, experience as decided by DAV shall be final and binding on contractor. The contractor shall not be entitled for any extra payment in this regard. The technical staff should be available at site, whenever required by DAV to take instructions.
- 66.2 Within 15 days of Letter of Award, the contractor shall submit a site organisational chart and resume including details of experience of the Project-in-Charge and other staff proposed to be deputed by him and the technical team shall be deputed by them on the Project after getting approval from Consultant-in-Charge. If desired by the contractor at later date, the Project-in-Charge and other staff whose resume is approved by DAV can be replaced with prior written approval of DAV and replacement shall be with equivalent or superior candidate only. Decision of Consultant-in-Charge shall be final and binding on the contractor.
- 66.3 Even after approving the site organizational chart, the Consultant-in-Charge due to technical reasons and exigency of work can direct the contractor to depute such additional staff as in view of Consultant-in-Charge is necessary and having qualification and experience as approved by the Engineer-in-Charge. The removal of such additional staff from the site shall only be with the prior written approval of Consultant-in-Charge. The contractor shall not be paid anything extra whatsoever on account of deployment of additional staff and decision of the Consultant-in-Charge shall be final and binding on the contractor.
- 66.4 In case the contractor fails to employ the staff as aforesaid he shall be liable to pay a reasonable amount not exceeding a sum of Rs.50,000 (Rupees Fifty Thousand only) for each month of default in the case of each person. The decision of the Consultant-in-Charge as to number of Technical Staff to be adequate for the project and the period for which the desired strength of technical staff was not employed by the contractor and as to the reasonableness of the amount to be deducted on this account shall be final and binding on the contractor as to the amount and the contractor's liability to pay the said amount.

67.0 VALUABLE ARTICLES FOUND AT SITE

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

68.0 MATERIALS OBTAINED FROM DISMANTLEMENT TO BE OWNER'S PROPERTY

All materials like stone, boulders and other materials obtained during the work of dismantling, excavation etc. will be considered DAV/owner property and such materials shall be disposed-off to the best advantage of

DAV/owner according to the instructions in writing issued by the Consultant-in-Charge.

69.0 FURNISHED OFFICE ACCOMMODATION & MOBILITY COMMUNICATION TO BE ARRANGED BY CONTRACTOR

69.1 On acceptance of tender, the contractor at his own cost will preferably construct Pre-engineered/ Porta cabin's office at site suitably equipped with basic facilities like electricity and drinking water supply and vehicle for the supervisory staff with driver as per the requirement of the project. However, the above may not be required for: -

69.1.1 Projects with contract value up to Rs. 25 crore; and

69.1.2 For specialised projects/ works like Waterproofing, HVAC, Lifts etc. of any contract value

The contractor shall maintain the aforesaid facilities intact/operational during the tenancy of the contract or maximum up to 6 months beyond the stipulated contractual completion date if the work is delayed due to any reasons. Operation and maintenance cost on the above facilities shall be borne by the contractor.

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

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

70.0 UTILISATION OF WORK FORCE OF DAV BY THE CONTRACTOR

70.1 DAV shall provide skilled/semi –skilled workmen like office assistant/ work supervisors, work masons, wiremen, plumbers, operators etc., or any other category to assist the contractor in execution of works at the fixed recovery rates as mentioned in the "Memorandum(Annexure – I)" against each work force.

70.2 DAV shall deploy the work force as per table below. The recovery shall be effected for the period for which DAV workforce is actually deployed during stipulated time of completion including extended period, if any.

70.3 The recovery amount as per 71.2 above on account of deployment of work force of DAV shall not exceed the amount equivalent to the maximum number of workforce as per table below for the stipulated time of completion of the project.

S. No.	Value of the project as per estimated cost put to tender (Rs. In crores)	Maximum Number of work force of various categories
1.	Above Rs.5 crore upto 15 crore	01
2.	Above Rs.15 crore upto 25 crore	03
3.	Above Rs.25 crore upto 50 crore	06
4.	Above Rs.50 crore upto 100 crore	12
5.	Above Rs.100 crore upto 200 crore	18
6.	Above Rs.200 crore upto 500 crore	23
7.	Above Rs.500 crore	30

70.4 Recoveries of the actual work force provided by DAV as stated above will be made by DAV from the monthly running account bills. The contractor

shall deploy such work force on the execution of the works as per their trades.

- 70.5 Further, the monthly rate per work force is for the purpose of recovery only and in no way shall be construed to be the rate applicable for working out analysis, justification of rates, extra items, claims etc.

71.0 PROVIDING PLANTATION OF TREES AT PROJECT SITE AND MAINTENANCE OF THE SAME UPTO DEFECT LIABILITY PERIOD

The contractor at his own cost shall plant Trees including Ornamental of height not less than 05 ft. of different varieties at the project site or in any specified area within the radius of 20kms from the project site, if the space is not available at the project site, with the approval of consultant-in-charge within 6 months from the handing over of site to the contractor by DAV. The contractor shall maintain the same in healthy condition up to defect liability period. Numbers of trees/plants are given below:

S.NO	Value of the project as per agreement (Rs. In crores)	Number of Trees / Plant of various categories
1	Above Rs.25 crore to 100 crore	5 trees for each Rs.1 Crore value
2	Above Rs.100 crore to 300 crore	500 trees plus 2 trees for each Rs.1 Crore value above Rs.100 Crores
3	Above Rs.300 crore to any value	900 trees plus 1 tree for each Rs.1 Crore value above Rs.300 Crores

Note: In case of change in layout/fouling with facilities/structure, the same may be replanted & their survival growth shall be ensured by the Contractor.

72.0 LABOUR LAWS

72.1 LABOUR LAWS TO BE COMPLIED BY THE CONTRACTOR

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

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

The contractor shall not engage any labour below the age of 18 under any circumstances. The provisions under Child Labour (Prohibition and Regulation) Amendment Act. 2016 should be strictly adhered to. In case of any non-compliance to the requirements of Labour laws, the contractor shall be liable for all consequences or any penalty imposed in this regard.

The contractor shall also declare in each running bill that he has not engaged any labour below the age of 18 in the project.

Any failure to fulfill above requirement shall attract the penal provisions of this contract arising out the resultant for non-execution of the work before the commencement of work.

72.2 Payment of wages:

- (i) The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the DAV Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- (ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
- (iii) The contractor shall transfer/ credit the wages/salary of all labourers/workers preferably in their bank accounts. He shall be responsible for opening of bank accounts of all labourers/workers employed by the contractor at work site in this regard.
- (iv) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the DAV contractor's Labour Regulations in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorisedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- (v) (a) The Consultant-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.

(b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one-day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Consultant-in-Charge concerned
- (vi) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948/ Code on Wages, 2019, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.
- (vii) The contractor shall indemnify and keep indemnified DAV against payments to be made under and for the observance of the laws aforesaid and the DAV Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.

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

72.3 LABOUR SAFETY PROVISION

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

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

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

72.4 OBSERVANCE OF LABOUR LAWS

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

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

The contractor shall also ensure the compliance of EPF & MP Act, 1952 by the sub-contractors, if any, engaged by the contractor for the above said work.

The contractor shall submit affidavit to indemnify and save harmless the Corporation from and against all actions, suits, proceedings, losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the Corporation by reasons of any act or omission of the Contractor, his agents or employees in connection with complying the provisions of the Employees Provident Fund & Miscellaneous Provisions Act, 1952 as amended from time to time. All sums payable by way of compensation / penalty / damages / interest on the outstanding amounts payable by the Contractor shall be considered as reasonable and be payable by the Contractor to the Corporation immediately and if the Contractor does not pay the amount immediately the same will be deducted from the security deposit or earnest money or any other amount available with the Corporation or any money payable to the Contractor by the Corporation.

Contractor should submit a Compliance Certificate along with the details of employees and recoveries made to the DAV as per the performa (Section-5) mentioned in every bill as per the provisions of the EPF and ESI Act as amended from time to time.

72.4.3 The Contractor shall submit proof of having valid ESI registration for Construction site workers located in the ESI implemented areas for every construction site worker before his/her engagement on the DAV site of works as per requirement of ESI act, 1948 amended upto date and rules made there under.

The contractors are required to ensure that in ESI implemented areas, every construction site worker has been registered online and they are required to ensure that these workers and their families have got their photography and capturing of biometrics at nearest ESIC branch office and got their respective "**Pehchan cards**" (from ESIC office) issued for extension of ESI benefits to all the engaged construction site workers.

The contractors are required to submit proof of having registered / got issued **Pehchan cards** in respect of every Construction site worker in ESI implemented areas before engagement on DAV site of works.

The contractors are required to comply with all the relevant provisions of ESI act, 1948 as amended from time to time and deposit of his contribution as may be required under the above said act to the ESI authorities at required intervals / time of deposit and submit the proof to DAV.

The contractor shall at all times indemnify DAV and Owner against all claims, damages or compensation under the provision of ESI Act, 1948 or any modifications thereof or as consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the contractor be paid to compromise or Compound any such claim.

72.5 MINIMUM WAGES ACT

The contractor shall comply with all the provisions of the minimum wages Act, 1948 Code on Wages, 2019, contract labour Act (Regulation & Abolition) 1970, and rules framed there under and other labour laws/local laws affecting contract labour that may be brought into force from time to time.

72.6 LABOUR RECORDS

The contractor shall submit by the 4th & 19th of every month to the Consultant-in-Charge of DAV a true statement, showing in respect of the second half of the preceding month and the first half of the current month, respectively, of the following data:

- a) The number of the labour employed by him (category-wise).
- b) Their working hours.
- c) The wages paid to them.
- d) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused.
- e) The number of female workers who have been allowed Maternity Benefits and the amount paid to them.
- f) Any other information required by Consultant-in-Charge

Failing which the contractor shall be liable to pay to DAV, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the DAV shall be final in deducting from any bill due to the contractor; the amount levied as fine and is binding on the contractor.

72.7 In respect of all labour directly or indirectly employed in the works 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 framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the DAV and its contractors.

72.8 Leave and pay during leave shall be regulated as follows: -

1. Leave:

(i) In the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,

(ii) In the case of miscarriage - upto 3 weeks from the date of miscarriage.

2. Pay:

(i) In the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.

(ii) In the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

3. Conditions for the grant of Maternity Leave:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form and the same shall be kept at the place of work.

72.9 In the event of the contractor(s) committing a default or breach of any of the provisions of the DAV's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to DAV a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Consultant-in-Charge shall be final and binding on the parties.

Should it appear to the Consultant-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the DAV Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R&A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Consultant-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the

contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work-people as aforesaid, the Consultant-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Consultant-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodeled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Consultant-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

72.10 The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Consultant-in-Charge.

- (i) (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker's family staying with the labourer.
- (b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.
- (c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each, on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
- (d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- (ii) (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Consultant-in-Charge. In case of sun-dried bricks, the walls should be plastered with '*mud gobi*' on both sides. The floor may be '*kutch*' but plastered with '*mud gobi*' and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Consultant-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.
- (b) The contractor(s) shall provide each hut with proper ventilation.
- (c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.

- (d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Consultant-in-Charge. Back to back construction will be allowed.
- (iii) Water Supply - The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/ their own cost make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available, and shall pay all fees and charges thereof.
- (iv) The site selected for the camp shall be high ground, removed from jungle.
- (v) Disposal of Excreta- The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.
- (vi) Drainage - The contractor(s) shall provide efficient arrangements for drainage away of sullage water so as to keep the camp neat and tidy.
- (vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- (viii) Sanitation - The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

73.0 LABOUR CESS

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

Every contractor, sub-contractor, affiliates, their legal assigns or heirs as the case may, shall be responsible for registration of every Building worker who has completed eighteen years of age but has not completed sixty years of age and who has been engaged in any Building or Other Construction Work for not less than Ninety Days during the preceding twelve months; with the Board / Funds as applicable under various sections of "THE BUILDINGS AND OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 and THE BUILDING AND OTHER CONSTRUCTION WORKERS' WELFARE CESS ACT, 1996.

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

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

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

74.0 RECOVERY OF COMPENSATION PAID TO WORKMEN

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, DAV is obliged to pay compensation to a workman employed by the contractor, in execution of the works, DAV will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the DAV under sub-section (2) of Section 12, of the said Act, DAV shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due to the contractor whether under this contract or otherwise. DAV shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to DAV full security for all costs for which DAV might become liable in consequence of contesting such claim.

75.0 ENSURING PAYMENT AND AMENITIES TO WORKERS IF CONTRACTOR FAILS

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

76.0 CHANGE IN FIRM'S CONSTITUTION TO BE INTIMATED

Where the contractor is a partnership firm, the prior approval in writing of the Consultant-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If prior approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 64.0 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 64.0.

77.0 INDEMNITY AGAINST PATENT RIGHTS

The contractor shall fully indemnify the DAV from and against all claims and proceedings for or on account of any infringement of any patent rights, design, trademark or name or other protected rights in respect of any construction plant, machine, work or material used for in connection with the works or temporary works.

78.0 LAW COVERING THE CONTRACT

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

79.0 LAWS, BYE-LAWS RELATING TO THE WORK

79.1 The contractor shall fully comply with the DIPP's PPP-MII order no P-45021/2/2017/E II dated 15.06.17 or any further revision at any later date during the entire tenancy of the contract.

In case of procurement for a value in excess of Rs 10 crore, above undertaking shall be provided from a statutory auditor or cost auditor of the company (in the case of companies) or from a practicing chartered accountant (in case of tenderer other than companies).

79.2 The contractor shall fully comply with the MSMED Act, 2006 and Ministry of MSME Order 2012 or any further revision at any later date (as per applicability under clause 26 of ITT) during the entire tenancy of the contract

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

80.0 CONTRACT AGREEMENT

The Contractor shall enter into a Contract Agreement with the DAV within 30 (Thirty) days from the date of Letter of Award failing which no payment shall be released to the contractor. The cost of stamp papers, stamp duty, registration, if applicable on the contract, shall be borne by the Contractor. In case, the contractor does not sign the agreement as above or start the work within 10 (Ten) days of the issue of letter of Award, his earnest money is liable to be forfeited and Letter of award consequently will stand withdrawn.

81.0 MANNER OF EXECUTION OF AGREEMENT

- i) The agreement as per prescribed Performa as enclosed shall be signed at the office of the DAV within 30(Thirty) days from the date of issue of Letter of Award. The Contractor shall provide for signing of the Contract, appropriate Power of Attorney and the requisite documents/ materials. Unless and until a formal contract is prepared and executed, the Letter of Award read in conjunction with the Tendering Documents will constitute a binding contract.
- ii) The agreement will be signed in five originals and the Contractor shall be provided with one signed original and the other four originals will be retained by the DAV
- iii) The Contractor shall provide free of cost to the DAV all the Engineering data, drawings and descriptive materials submitted along with the tender, in at least three (3) copies to form an integral part of the Agreement within seven 7 days after issuing of Letter of Award.
- iv) Subsequent to signing of the Agreement, the Contractor at his own cost shall provide to the DAV with at least five (5) true hard bound copies of Agreement within thirty (30) days of its signing.

82.0 JURISDICTION

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

83.0 THIRD PARTY SAFETY AUDIT: (APPLICABLE FOR PROJECTS VALUING RS. 50 CRORE AND ABOVE)

An experienced and reputed agency shall be engaged/ appointed by the contractor at all the projects valuing Rs.50 crore and above from the agencies empanelled by DAV for Monitoring & Auditing of Safety measures in the construction work. The scope of work of the agency so engaged shall be as under:

- 1. Safety Audit and Implementation of Safety Measures:** The agency shall conduct periodic/quarterly safety audit of the project site through their own sufficient number of technically qualified and experienced staff (safety officers and steward) or from the appropriate authorities / statutory bodies to ensure that:
 - all safety measures/ safety rules are implemented and followed at site.
 - all Personal Protective Equipment (PPE) provided to workers as required under any of the provisions of the Act or the Rules conform to the relevant Indian Standards and to advise all Site Engineers/ Section-In-Charges/ Supervisors to ensure proper use of such PPEs by workers at site.
 - a safe working environment is provided to all workers and supervisory staffs.
 - use of various material, equipments/ tools & tackles, storage of various materials, provision of lighting & barricading etc. is done in terms of safety.
 - at each and every level of the project safety has been kept in mind as an integral part of the activities.
 - Keeping the site incident free, without any damage to health, property and environment.
 - Proper housekeeping is maintained at site as the housekeeping is directly connected with safety.
 - Feedback for successful performance is to be developed and is to be submitted to the Engineer in-charge on Quarterly basis.

2. Training

- To increase the safety consciousness of the workforce and the supervisory staffs, periodic training and motivation towards safe practices are to be conducted by agency. The training should be of visual i.e. through videos & physical i.e. mock drills etc. The agency will conduct mock drills also.

3. Documentation & Record Keeping

- Check / update / correct and incorporate standard operation procedures in Safety Manual submitted by deployed agencies.
 - The agency shall prepare periodic reports of each site visits, training & mock drill and according instructions are to be issued to contractors through Engineer In-charge, DAV.
4. The agency shall liaison with law enforcing bodies, statutory bodies, media / press or any other bodies concerned in case of any untoward incidents. However, statutory payments, if any, shall be paid by deployed main contractor / DAV.
5. The agency shall engage and deploy the qualified and sufficient number of manpower to audit all the safety measures and Workman Safety provisions as per DAV safety guidelines at the site as per following qualifications, however, the decision of Engineer In-charge in this regard shall be final and binding:

S. No.	Description	Remarks
1.	Senior Safety Officer (Overall In-charge)	<ul style="list-style-type: none">• A recognised degree/diploma or equivalent in any branch of engineering or technology;• has had practical experience of working in a construction project site in supervisory capacity for a period of not less than 10-15 years;• Possesses a degree or diploma in construction / industrial safety recognized by the Central / State Government.
2.	Safety Officer	<ul style="list-style-type: none">• A recognised degree/diploma or equivalent in any branch of engineering or technology;• has had practical experience of working in a construction project site in supervisory capacity for a period of not less than 5-7 years;• Possesses a degree or diploma in construction / industrial safety recognized by the Central / State Government.
3.	Steward	<ul style="list-style-type: none">• A recognised diploma or equivalent in any branch of engineering or technology;• has had practical experience of working in a construction project site in supervisory capacity for a period of not less than 2-3 years;• Possesses a degree or diploma in construction / industrial safety recognized by the Central / State Government.

6. The duties of Safety Audit agency shall further include the following: -

- a) Plan and organize measures necessary for creating a safe working environment for all workmen engaged at site and to prevent any kind of personal injuries and damage to property;
- b) To advise on safety aspects in all job studies, and to carry out detailed job safety studies of selected jobs and to formulate Job Hazard Analysis Report and Safety Manual during initial mobilization stage of the project.
- c) Prepare action proposed to be taken to prevent personal injuries and damage to property.
- d) Conduct site safety inspections, in order to observe the physical conditions of work and the work practices and procedures followed by workers and to render advice on measures to be adopted for removing the unsafe physical conditions and preventing unsafe actions by workers and to ensure that the same will be implemented at site. To prepare & submit visit report to Consultant-in-Charge.
- e) To report and investigate accidents and near-misses and to recommend the preventive measures so as to ensure non-occurrence of such cases and to ensure.
- f) To maintain such records as are necessary relating to accidents, dangerous occurrences and industrial diseases.
- g) To organise in association with the concerned departments, campaigns, competitions, contests and other activities which will create awareness and will develop and maintain the interest of the workers in establishing and maintaining safe conditions of work and procedures.
- h) To design and conduct suitable training and educational programme for the prevention of personal injuries.
- i) Visit to workman camps and monitoring & ensuring the total hygienic conditions are provided for workman.

LABOUR SAFETY PROVISIONS

- 1.0 Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra '**mazdoor**' shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand holds shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
- 2.0 Scaffolding or staging more than 3.6m (12 feet) above the ground or floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3 feet) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 3.0 Working platforms, gangways, and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6m (12 feet) above ground level or floor level, they should be closely boarded, should have adequate width & should be suitable fastened as described in (2.0) above.
- 4.0 Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm (3 feet).
- 5.0 Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30 feet) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11.5") for ladder up to and including 3m (10 feet) in length. For longer ladders this width should be increased at least $\frac{1}{4}$ " for each additional 30 cm (1 ft.) of length. Uniform step spacing shall not exceed 30 cm (12"). Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of the work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident, and shall be bound to bear the expenses of defense of every suit, action or other proceeding at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person or which may, with the consent of the Contractor, be paid to compensate any claim by any such person.
- 6.0 **EXCAVATION AND TRENCHING**
All trenches, 1.2mts.(four feet) or more in depth, shall at all times be supplied with at least one ladder for each 30m.(100 feet) in length or fraction thereof, ladder shall be extended from bottom of the trench to at least 90cm (3feet) above the surface of the ground. The side of the trenches, which are 1.5 m. (5feet) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger or sides to collapsing. The excavated materials shall not be placed within 1.5m (5 feet) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

- 7.0 Demolition - Before any demolition work is commenced and also during the progress of the work following precautions shall be observed:
- 7.1 All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- 7.2 No electric cable or apparatus which is likely to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
- 7.3 All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be overloaded with debris or materials as to render it unsafe.
- 8.0 All necessary personal safety equipment as considered adequate by the Consultant-in-Charge should be kept available for the use of persons employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall be invariably provided.
- 8.1 Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- 8.2 Those engaged in white washing and mixing or stacking of cement bags or any materials which are injurious to the eye shall be provided with protective goggles.
- 8.3 Those engaged in welding works shall be provided with welders protective eye shields.
- 8.4 Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe interval.
- 8.5 When workers are employed for works in sewers and manholes, which are in active use, the Contractors shall ensure that the manhole covers are opened and ventilated at-least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to:
- a) Entry for workers into the sewer line shall not be allowed except under supervision of the JE or any other higher officer.
 - b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manholes for working inside.
 - c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes color in the presence of such gases and gives indication of their presence.
 - d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

- e) Safety belt with rope should be provided to the workers. While working inside the manholes such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
 - h) The *malba* obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the *malba*.
 - i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Consultant-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
 - j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
 - k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air-blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at-least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
 - l) The workers engaged for cleaning the manholes / sewers should be properly trained before allowed to work in the manhole.
 - m) The workers shall be provided with Gumboots or non-sparking shoes, bump helmets and gloves non sparking tools, safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
 - n) Workmen descending a manhole shall try each ladder step or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
 - o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
 - p) The extents to which these precautions are to be taken depend on individual situation but the decision of the Consultant-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- 8.6 The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form wherever men above the age of 18 are employed on the work of lead painting the following precautions should be taken.
- 8.6.1 No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
- 8.6.2 Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.

- 8.6.3 Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
- 8.6.4.1 a) White lead, sulphate or lead work products containing those pigments shall not be used in painting operation except in the form of paste or of paints ready for use.
- b) Measures shall be taken whenever required in order to prevent danger arising from the application of paint in the form of spray.
- c) Measures shall be taken, whenever practicable to prevent danger arising out of dust caused by dry rubbing down and scrapping.
- 8.6.4.2 a) Adequate facilities shall be provided to enable working painter to wash during and on cessation of work.
- b) Suitable arrangements shall be made to prevent clothing put off during working hours being spoiled by painting materials.
- 8.6.4.3 a) Cases of lead poisoning and of suspected lead poisoning shall be notified and shall be subsequently verified by a medical man appointed by the competent authorities of DAV.
- b) The DAV may require when necessary a medical examination of workers.
- c) Instructions with regard to the special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
- 9.0 When the work is done near any place where there is risk of drowning, all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provisions should be made for prompt first aid treatment for all injuries likely to be sustained during the course of the work.
- 10.0 Use of hoisting machines and tackle including their attachment encourage and supports shall conform to the following standard of conditions.
- 10.1 a) these shall be of good mechanical construction, sound material and adequate strength and free from patent, defects and shall be kept in good working order.
- b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
- 10.2 Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffolding, winch or giving signals to operator.
- 10.3 In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this clause shall be loaded beyond the safe working load except for the purpose of testing.

- 10.4 In case of DAV machines, the safe working load shall be notified by the Consultant-in-Charge. As regards Contractor's machines the Contractor shall notify the safe working load of the machine to the Consultant-in-Charge whenever he brings any machinery to site of work and get verified by the Consultant-in-Charge.
- 11.0 Motors gearing, transmission electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguard. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel, such as gloves sleeves and boots as may be necessary be provided. The worker should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.
- 12.0 All scaffold, ladders, and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- 13.0 These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place of work spot. The person responsible for compliance of the safety codes shall be named therein by the contractor.
- 14.0 To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the Contractor shall be open to inspection by DAV Official or their representatives.
- 15.0 Notwithstanding the above Clauses from (i) to (xiv) there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS

1.0 APPLICATION

These rules shall apply to all building and construction works in which 20 (twenty) or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contractor work is in progress.

2.0 DEFINITION

Work place means a place where twenty or more workers are ordinarily employed or are proposed to be employed in connection with construction work on any day during the period during which the contract work is in progress.

3.0 FIRST-AID FACILITIES

3.1 At every work place first aid facilities shall be provided and maintained, so as to be easily accessible during working hours, First-Aid boxes at the rate of not less than one box per 150 contract labour or part thereof ordinarily employed.

3.2 The First-Aid boxes shall be distinctly marked with a red cross on white background and shall contain the following equipment:

- 3.2.1 a) For work places in which number of contract labour employed does not exceed 50, Each First-Aid box shall contain the following equipment:
- (i) Small sterilized dressings.
 - (ii) Medium size sterilized dressings.
 - (iii) Large size sterilized dressings.
 - (iv) Large sterilized burn dressings.
 - (v) 1 (30 ml) bottle containing a two percent alcoholic solution of iodine.
 - (vi) 1 (30 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 - (vii) 1 snakebite lancet.
 - (viii) 1 (30 gm) bottle of potassium permanganate crystals.
 - (ix) 1 pair of scissors.
 - (x) 1 copy of the First-Aid leaf-let issued by the Director General, Factory Advise Service & Labour Institute, Government of India.
 - (xi) 1 bottle containing 100 tablets (each of 5 grams) of aspirin.
 - (xii) Ointment for burns.
 - (xiii) A bottle of suitable surgical antiseptic solution.

3.2.2 For work places in which the number of contract labour exceed 50. Each First-Aid box shall contain the following equipment:

- i) 12 small sterilized dressings.
- ii) 6 medium size sterilized dressings.
- iii) 6 large size sterilized dressings.
- iv) 6 large size sterilized burn dressings.
- v) 6 (15 gm) packet sterilized cotton wool.
- vi) 1 (60 ml.) bottle containing a two percent iodine alcoholic solution.
- vii) 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
- viii) 1 - roll of adhesive plaster.
- ix) 1 snake - bite lancet.
- x) 1 (30 gm) Bottle of potassium permanganate crystals.
- xi) 1 pair of scissors.
- xii) 1 copy of the First-Aid leaf-let issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
- xiii) A bottle containing 100 tablets (each of 5 grams) of aspirin.
- xiv) Ointment for burns.
- xv) A bottle of suitable surgical antiseptic solution.

3.3 Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.

3.4 Nothing except the prescribed contents shall be kept in the First Aid box.

3.5 The First Aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.

3.6 A person in charge of the First-Aid box shall be a person trained in First-Aid treatment in work places where the number of labour employed is 150 or more.

3.7 In work places where the number of labour employed is 500 or more and hospital facilities are not available within easy distance of the works, first-Aid Posts shall be established and run by a trained Compounder. The Compounder shall be on duty and shall be available at all hours when the workers are at work.

3.8 Where work places are situated in places, which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or persons suddenly taken ill to the nearest hospital.

4.0 DRINKING WATER

4.1 In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.

- 4.2 Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- 4.3 Every water supply of storage shall be at a distance of not less than 50 feet from any latrines drain or other source of pollution, where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap-door which shall be dust and water-proof.
- 4.4 A reliable pump shall be fitted to each covered well, trap-door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5.0 WASHING FACILITIES

- 5.1 In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of labour employed herein.
- 5.2 Separate and adequate screening facilities shall be provided for the use of male and female workers.
- 5.3 Such facilities shall be conveniently accessible and shall be kept clean and hygienic condition.

6.0 LATRINES AND URINALS

- 6.1 Latrines shall be provided in every work place on the following scale, namely:
- a) Where females are employed there shall be at least one latrine for every 25 females.
 - b) Where males are employed, there shall be at least one latrine for every 25 males.
- Provided that*** where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females, as the case may be, upto the first 100, and one for every 50 thereafter.
- 6.2 Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- 6.3 Construction of Latrines: The inside walls shall be constructed of masonry or some suitable heat resisting non-absorbent materials and shall be cement washed inside and outside at least once a year. Latrine shall not be a standard lower than bore-hole system.
- 6.4 (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women only" as the case may be.
- (b) The notice shall also bear the figure of man or of a woman, as the case may be.
- 6.5 There shall be at least one urinal for male workers upto 50 and one for female workers upto 50 employed at a time. Provided that where the number of male or female workmen, as the case may be, exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereof, thereafter.

- 6.6 a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
- b) Latrines and urinals other than those connected with a flush sewerage system shall comply with the requirements of the Public Health Authorities.
- 6.7 Water shall be provided by means of a tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.

6.8 Disposal of Excreta

Unless otherwise arranged for by the local sanitary authority arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternatively, excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm layer of waste or for refuse and then covering it with a layer of earth for fortnight (when it will turn into manure).

- 6.9 The Contractor shall, at his own expense, carry out all instruction issued to him by the Consultant-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the Contractor's workmen or employees on the site. The Contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such work on his behalf.

7.0 PROVISION OF SHELTER DURING REST

At every place, there shall be provided, free of cost, four suitable sheds, two for males and the other two for rest separately for the use of man and women labour. The height of each shelter shall not be less than 3 meters from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sqm per head.

Provided that the Consultant-in-Charges may permit, subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8.0 CRECHES

- 8.1 A every work place, at which 20 or more women workers are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedrooms.

The rooms shall be constructed on standard not lower than the following:

- i) Thatched roof
- ii) Mud floor and walls.
- iii) Planks spread over the mud floor and covered with matting

- 8.2 The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- 8.3 The Contractor shall supply adequate number of toys and games in the playroom and sufficient number of cots and beddings in the bed-room.
- 8.4 The Contractor shall provide one "Ayaa" to look after the children in the crèche when the number of women workers does not exceed 50; and two when, the number of women workers exceed 50.

- 8.5 The use of the rooms/earmarked as crèches shall be restricted to children, their attendant and mother of the children.

9.0 CANTEENS

- 9.1 In every work place where the work regarding the employment of contract labour is likely to continue for six months and wherein contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the Contractor for the use of such labour.
- 9.2 The canteen shall be maintained by the Contractor in an efficient manner.
- 9.3 The canteen shall consist of at least a dining hall, kitchen, and storeroom, pantry and washing places separately for workers and utensils.
- 9.4 The canteen shall be sufficiently lighted at all times when any person has access to it.
- 9.5 The floor shall be made of smooth and impervious material and inside walls shall be lime washed or colour washed at least once in each year.
- Provided that the inside walls of the kitchen shall be lime-washed every four months.
- 9.6 The premises of the canteen shall be maintained in a clean and sanitary condition.
- 9.7 Waste Water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- 9.8 Suitable arrangements shall be made for the collection and disposal of garbage.
- 9.9 The dining hall shall accommodate at a time 30 persons of the labour working at time.
- 9.10 The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chair shall not be less than one square metre per dinner to be accommodated.
- 9.11 a) A portion of the dining hall, and service counter shall be partitioned off and reserved for women workers in proportion to their number.
- b) Washing places for women shall be separate and screened to secure privacy.
- 9.12 Sufficient tables, stool, chairs or benches shall be available for the number of dinners to be accommodated.
- 9.13.1 a) There shall be provided and maintained sufficient utensils, crockery, furniture and any other equipment necessary for the efficient running of the canteen.
- b) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition.
- 9.13.2 a) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
- b) A service counter, if provided, shall have top of smooth and impervious material.

- c) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.
- 9.14 The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the labour.
- 9.15 The charge for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit' No loss' and shall be conspicuously displayed in the canteen.
- 9.16 In arriving at price of food stuffs, and other articles served in the canteen, the following items shall not be taken into consideration as expenditure, namely:
- a) The rent of land building;
 - b) The depreciation and maintenance charges for the building and equipment provided for the canteen;
 - c) The cost of purchase, repair and replacement of equipment including furniture, crockery, cutlery and utensils;
 - d) The water charges and other charges incurred for lighting and ventilation;
 - e) The interest and amounts spent on the provision and maintenance and equipment provided for in the canteen;
- 9.17 The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10.0 ANTI MALARIAL PRECAUTIONS

The Contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Consultant-in-Charge including the filling up of any borrows pits which may have been dug by him.

11.0 AMENDMENTS

DAV may from time to time, add to or amend these rules and issue such directions as it may consider necessary for the purpose of removing any difficulty which may arise in the administration hereof.

CONTRACTOR'S LABOUR REGULATIONS

1.0 SHORT TITLE

These regulations may be called the Contractor "Labour Regulations".

2.0 Definitions

2.1 "Workman" means any person employed by the DAV or its Contractor directly or indirectly through a sub-contractor, with or without the knowledge, of the DAV to do any skilled, semi-skilled, un-skilled, manual, supervisory, technical or clerical work for hire or reward, whether, the terms of employment are expressed or implied but does not include any person-

a)	Who is employed mainly in a managerial or administrative capacity; OR
b)	Who being employed in a supervisory capacity draws wages exceeding Rupees Two Thousand Five hundred per person or exercises either by the nature of the duties attached to the office or by reason of powers vested to him, functions mainly of managerial nature.
c)	Who is an out worker, that is to say, a person to whom any articles or materials are given out by or on behalf of the principal employer to be made up cleaned, washed, altered, ornamental finished, repaired, adopted or otherwise processed for sale for the purpose of the trade or business of the principal employer and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

2.2 "Fair Wages" means wages whether for time or piece work fixed and notified under the provisions of the minimum Wages Act/ Code on Wages, 2019 from time to time.

2.3 "Contractor" shall include every person who undertake to produce a given result other than a mere supply of goods or articles of manufacture through labour or who supplies labour for any work and includes a sub-contractor.

2.4 "Wages" shall have the same meaning as defined in the Payment of Wages Act/ Code on Wages, 2019.

2.4.1 Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

2.4.2 When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week he shall be paid overtime for the extra hours put in by him at double the ordinary rate of wages.

2.4.3.1 Every worker shall be given a weekly holiday on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960/ Code on Wages, 2019 as amended from time to time, irrespective of whether such worker is governed by the Minimum Wages Act or not.

2.4.3.2 Whether the Minimum Wages prescribed by the Government under the Minimum Wages Act/ Code on Wages, 2019 are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the

rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

- 2.4.3.3 Where a contractor is permitted by the Consultant-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substitute holiday to him for the whole day on one of the five days immediately before or after the normal weekly holidays and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

3.0 DISPLAY OF NOTICE REGARDING-WAGES, ETC.

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clean and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers, giving the minimum rates of wages fixed under the Minimum Wages Act/ Code on Wages, 2019, the actual wages being paid, the hours of work for which such wages are earned, wage period, dates of payment of wages and other relevant information as per Appendix 'A'.

4.0 PAYMENT OF WAGES

- 4.1 The contractor shall fix wage periods in respect of which wages shall be payable.
- 4.2 No wage period shall exceed one month.
- 4.3 The wages of every person employed as labour in an establishment or by a contractor where less than one thousand, such persons are employed shall be paid before the expiry of the seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- 4.4 Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- 4.5 All payments of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- 4.6 Wages due to every worker shall be paid to him direct or to other person authorized by him in this behalf.
- 4.7 All wages shall be paid in current coin or currency or in both.
- 4.8 Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956/ Code on Wages, 2019.
- 4.9 A notice showing the wage period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Consultant-in-Charge under acknowledgment.
- 4.10 It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Engineer or any other authorized representatives of the Consultant-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.

- 4.11 The contractor shall obtain from the Engineer or any other authorized representative of the Consultant-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:

"Certified that the amount shown in column No. 14 (net Amount paid) has been paid to the workmen concerned in my presence on..... at....."

5.0 FINES AND DEDUCTIONS, WHICH MAY BE MADE FROM WAGES

- 5.1 The wages of a worker shall be paid to him without any deduction of any kind except the following –

a)	Fines
b)	Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
c)	Deduction for damage to or loss of goods expressly entrusted to the employed persons for custody, or from loss of money or any other deduction which he is required to account where such damage or loss is directly attributable to his neglect or default.
d)	Deduction for recovery of advances or for adjustment of over payment of wages advances granted shall be entered in a register.
e)	Any other deduction, which the Central Government may from time to time allow.

- 5.2 No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved by the Chief Labour Commissioner.

NOTE: An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-I.

- 5.3 No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- 5.4 The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a Rupee of the total wages, payable to him in respect of that wage period.
- 5.5 No fine imposed on any worker shall be recovered from him in installment, or after the expiry of sixty days from the date on which it was imposed.
- 5.6 Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

6.0 LABOUR RECORDS

- 6.1 The contractor shall maintain a "Register of persons employed" on work on contract in form XIII of the CL (R&A) Central Rules 1971 (Appendix-B).
- 6.2 The contractor shall maintain a "Muster Roll" register in respect of all workmen employed by him on the work under contract in form XVI of the CL (R&A) Rules 1971 (Appendix-C).

6.3 The contractor shall maintain a "Wage Register" in respect of all workmen employed by him on the work in form (Appendix-D).

6.4 Register of accidents - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

- a) Full particulars of the labourers who met with accident.
- b) Rate of wages
- c) Sex
- d) Age
- e) Nature of accident and cause of accident.
- f) Time and date of accident.
- g) Date and time when he/she admitted in Hospital
- h) Date of discharge from the Hospital
- i) Period of treatment and result of treatment
- j) Percentage of loss of earning capacity and disability as assessed by Medical Officer.
- k) Claim required to be paid under Workmen's Compensation Act.
- l) Date of payment of compensation.
- m) Amount paid with details of the person to whom the same was paid.
- n) Authority by whom the compensation was assessed.
- o) Remarks.

6.5 Register of Fines - The contractor shall maintain a "Register of Fines" in the form (Appendix-H).

The contractor shall display in a good condition and in a conspicuous place of work the approved list of Acts and Omission for which fines can be imposed (Appendix-I).

6.6 Register of Deductions - The contractor shall maintain a "Register of Deductions" for damage or loss in form (Appendix-J).

6.7 Register of Advances - The contractor shall maintain a "Register of Advances" in form (Appendix-K).

6.8 Register of Overtime - The contractor shall maintain a "Register of Overtime" in form (Appendix-L).

7.0 ATTENDANCE CARD-CUM WAGE SLIP:

7.1 The contractor shall issue an attendance card-cum-wage slip to each workman employed by him in the specimen form at (Appendix-E).

7.2 The card shall be valid for each wage period.

7.3 The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.

- 7.4 The card shall remain in possession of the worker during the wage period under reference.
- 7.5 The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- 7.6 The contractor shall obtain the signature or thump impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

8.0 EMPLOYMENT CARD

The contractor shall issue an Employment Card in form to each worker within three days of the employment of the worker (Appendix-F).

9.0 SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a service certificate in form Appendix-G.

10.0 PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 and 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Consultant-in-Charge, Labour Officer.

11.0 POWER OF LABOUR OFFICERS TO MAKE INVESTIGATIONS INQUIRY

The Labour Officer or any other person authorized by DAV on its behalf shall have power to make inquiry with a view to ascertaining and enforcing due and proper observance of the Fair Wage Clauses and the Provisions of Regulations. He shall investigate into any complaint regarding the default made by the contractor or sub-contractor in regard to such provision.

12.0 INSPECTION OF BOOK AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour officer or any other person, authorized by the Central Government on his behalf.

13.0 SUBMISSION OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

14.0 AMENDMENTS

The DAV may from time to time, add or amend the regulations and on any question as to the application, interpretation or effect of these regulations the decision of the Zonal Chief concerned shall be final.

LABOUR BOARD

Name of work

Name of Contractor

Address of Contractor

Name and Address of Unit

Name of Labour Enforcement Officer

Address of Labour Enforcement Officer

Date:

S. No.	Category	Minimum wage fixed	Actual wages paid	Number present	Remarks

Weekly Holiday

Wage Period

Date of Payment of wages

Working hours

Rest interval

FORM 13

See rule 75

REGISTER OF WORKMEN EMPLOYED BY CONTRACTOR

Name and Address of Contractor

Name and Address of Establishment in
under which contract is carried on

Nature and location of work

Name & Address of Principal Employer

[illegible]

FORM XVI

(See Rule 78(2) (193))

MUSTER ROLL

Name and address of contractor

Name and address of establishment in/under
Which contract is carried on

Nature and location of work

Name and Address of Principal Employer

For the month / fortnight

[illegible]

FORM XVII
(See Rule 78(2) (03))

REGISTER OF WAGES

Name and address of contractor

Name and address of establishment in/under which contract is carried on

Nature and location of work

Name and Address of Principal Employer

Wage period: per month/ fortnightly

[illegible]

FORM XIX
[SEE RULE 78 (2) (B)]

W A G E S L I P

Name and address of contractor	
Name and Father's/Husband/s Name of workman	
Nature and location of work	
For the Week/Fortnight/Month ending	
1. No. of days worked	
2. No. of Units worked in case of piece rate workers	
3. Rate of daily wags/piece rate	
4. Amount of overtime wages	
5. Gross wages payable	
6. Deductions if any	
7. Net amount of wages paid	

Sign of the Contractor

WAGE CARD**Wage Card No.**

Name and address of Contractor

Date of Issue

Nature of work with location

Designation

Name of workman

Month/Fortnight: _____

Date	Rate of Wages		Amount
	Morning	Evening	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Initials: _____

Received from _____ the sum of Rs. _____
 _____ On account of my wages for _____ to _____

Signature

The wage card is valid for one month from the date of issue.

FORM XIV

(See Rule 76)

EMPLOYMENT CARD

Name and address of contractor

Name and address of establishment under which
The contract is carried out

Nature and location of work

Name and address of Principal Employer

1. Name of the workman
2. S. Name in the register of workman employed
3. Nature of Employment/Designation
4. Wage rate (with particulars of unit in
case of piece work)
5. Wage Period
6. Tenure of employment
7. Remarks

Signature of Contractor

Form XV

(See Rule 77)

(SERVICE CERTIFICATE)

Name and address of contractor	
Nature and location of work	
Name and address of workman	
Age or date of birth	
Identification Marks	
Father's/Husbands Name	
Name and address of establishment in under which contract is carried on	
Name and address of Principal Employer	

S. No.	Total period of which employed		Nature of work	Rate of wages (with particulars of unit in case of piece work)	Remarks
	From	To			
1.	2.	3.	4.	5.	6.

Signature: _____

Appendix 'H'

Form XII
[See Rule 78 (2) (d)]

REGISTER OF FINES

Name and address of contractor	
Name and address of establishment in/under which contract is carried on	
Nature and location of work	
Name and address of workman	
Name and address of Principal Employer	

[illegible]

**LIST OF ACTS AND OMISSIONS FOR
WHICH FINES CAN BE IMPOSED**

In accordance with rule of Labour Regulations, to be displayed prominently at the site of work both in English and local language.

1. Willful insubordination or disobedience, whether alone or in combination with other.
2. Theft, fraud or dishonesty in connection with contractors beside a business or property of DAV
3. Taking or giving bribes or any illegal gratifications
4. Habitual late attendance.
5. Drunkenness fighting riotous or disorderly or indifferent behaviour.
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked.
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the DAV or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving the false information regarding name, age, fathers name etc.
13. Habitual loss of wage cards supplied by the employer.
14. Unauthorized use of employers property of manufacturing or making of unauthorized articles at the work place.
15. Bad workmanship in construction and maintenance by skilled workers, which is not approved by the DAV for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishment.
18. Any unauthorized divulgence of business affairs of the employees.
19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.
21. Threatening or intimidating any workman or employee during the working hours within the premises

Form XX

[See Rule 78 (2) (d)]

REGISTER OF DEDUCTION FOR DAMAGES OR LOSS

Name and address of contractor

Name and address of establishment in/ under which
contract is carried on

Nature and location of work

Name and address of Principal Employer

S. No.	Name of workman	Father's/ Husband Name	Designation/ nature of employment	Particulars of damage of loss	Date of damage/loss	Whether workman showed cause against deductions	Name of person in whose presence employees explanation was heard	Amount of deduction Imposed	No. of installment	First insta- llment	Last Insta- llment	Remarks
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.

Form XXII

(See Rule 78(2))

REGISTER OF ADVANCES

Name and address of contractor

Name and address of establishment in/ under which
contract is carried on

Nature and location of work

Name and address of Principal Employer

S. No.	Name of workman	Father's/ Husband's Name	Designation/ nature of employment	Wages period and wages payable	Date and amount of advance given	Purpose / for which advance made	No. of installments by which advance is to be paid	Date and amount of each installment repaid	Date on which last installment was repaid	Remarks
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.

Form XXIII
[See Rule 78(2) (e)]

Name and address of Principal Employer

[illegible]

APPLICATION FOR EXTENSION OF TIME

(To be completed by the Contractor)

PART -I

1. Name of Contractor _____
2. Name of work as given in Agreement: _____
3. Agreement No.: _____
4. Estimated amount put to tender _____
5. Date of commencement work
(as per agreement) _____
6. Period allowed for completion of work
(as per agreement) _____
7. Date of completion stipulated
(as per agreement) _____
8. Period for which extension of time has been given previously:

	Letter of Consultant-in-charge		Extension Granted	
	Letter No.	Date of Letter	Months	Days
a) First extension				
b) 2nd extension				
c) 3rd extension -				
d) 4th extension				
Total extension previously given				

9. Reasons for which extension have been previously given (copies of the previous application should be attached)

Period for which extension is applied for:

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

(a) Serial No.	
(b) Nature of hindrance	
(c) Date of Occurrence	
(d) Period for which it is likely to last	

(e) Period for which extension required for this particular hindrance.	
f) Over lapping period, if any, with reference to item	
g) Net extension applied for	
h) Remarks, if any	

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

12. Extension of time required for extra work:

13. Details of extra work and on the amount involved:

- a) Total value of extra work
- b) Proportionate period of extension of time based on estimated amount put to tender on account of extra work.

14. Total extension of time required for 11 & 12

Submitted to the Consultant-in-Charge's office.

SIGNATURE OF CONTRACTOR

DATE

APPLICATION FOR EXTENSION OF TIME

(PART – II)

1. Date of receipt of application from Contractor for the work in the Consultant-in-Charge office.
2. Acknowledgement issued by Consultant-in-Charge vide his letter No. _____ dated _____
3. Consultant-in-Charge remarks regarding hindrances mentioned by the Contractor.

i) Serial No.	
ii) Nature of hindrance	
iii) Date of occurrence of hindrance	
iv) Period for which hindrance, is likely to last	
v) Extension of time period applied for by the contractor	
vi) Over lapping period, if any, giving reference to items which over lap	
vii) Net period for which extension is recommended.	
viii) Remarks as to why the hindrance occurred and justification for extension recommended.	

4. Consultant-in-Charge recommendations.

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

SIGNATURTE OF CONSULTANT-IN-CHARGE

APPROVAL OF DAV

PROFORMA FOR EXTENSION OF TIME

P A R T –III

To

<NAME OF CONTRACTOR>

ADDRESS OF THE CONTRACTOR

SUBJECT:

Dear Sir(s)

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

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

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

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

Yours faithfully,

FOR DAV

PROFORMA OF BANK GUARANTEE IN LIEU OF E M D (TENDER BOND)

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

DAV Public School,
7BLM-A, Srivijaynagar, Anupgarh, Raj.-335704

In consideration of DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called "DAV" which expression shall unless repugnant to the subject or context include its successors and assigns) having issued Notice Inviting Tender No..... and M/s..... having its Registered Head Office at..... (hereinafter called the "TENDERER") is to participate in the said tender for..... Whereas DAV, as a special case, has agreed to accept an irrevocable and unconditional Tender Bond Guarantee for an amount of Rs..... valid upto..... from the tenderer in lieu of Cash Deposit of Rs..... required to be made by the tenderer, as a condition precedent for participation in the said tender. We the(hereinafter called the "BANK") having its Registered, Office at..... and branch office at..... do hereby unconditionally and irrevocably undertake to pay to DAV immediately on demand in writing and without demur/protest any amount but not exceeding Rs..... Any such demand made by DAV shall be conclusive and binding on us irrespective of any dispute or differences that may be raised by the tenderer. Any change in the constitution of the tenderer or the Bank shall not discharge our liability under the guarantee.

We, the..... Bank, lastly undertake not to revoke this guarantee during its currency without the prior consent of DAV in writing and this guarantee shall remain valid upto..... upon expiry of which, we shall be relieved of our liability under this guarantee thereafter.

FOR AND ON BEHALF OF BANK

PLACE:

DATED:

WITNESS.

1.

2.

PERFORMA OF BANK GUARANTEE FOR PERFORMANCE

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

DAV Public School,
7BLM-A, Srivijaynagar, Anupgarh, Raj.-335704

In consideration of DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called "DAV") which expression shall unless repugnant to the subject or context include its successors and assigns, having awarded a work order/contract / supply order No. _____ Dated _____

(hereinafter called "the said contract") to M/s. _____
_____having its registered Head Office at _____ (hereinafter called the contractor / supplier) which expression shall unless repugnant to the subject or context includes its successors and assigns at a total price of Rs._____ subject to the terms and conditions contained in the contract.

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

We, the..... Bank, (hereinafter called "The Bank") which expression shall unless repugnant to the subject or context include its successors and assigns) having our registered office at.....and branch office athereby unconditionally and irrevocably undertake and guarantee payment to DAV forthwith on the same day on demand in writing and without protest or demur of any and all moneys payable by the contractor/supplier to DAV under, in respect or in connection with the execution/supply of and performance of the works/equipment, inclusive of any loss, damages, charges, expenses and costs caused to or suffered by or which would be caused to or suffered by DAV by reason of any breach by the contractor/supplier of any of the terms and conditions contained in the contract as specified in the notice of demand made by DAV to the bank with reference to this guarantee up to and aggregate limit of Rs. _____ (Rupees _____ only) the bank hereby agrees with DAV that:

1. This Guarantee shall be continuing guarantee and shall remain valid and irrevocable for all claims of DAV and liabilities of Supplier/Contractor till the date

of expiry of BG i.e.....The claim period of the Bank Guarantee shall be for a period of 12 Months after the date of expiry of BG.

2. DAV shall have the fullest liberty without our consent and without affecting in any manner our obligations and liabilities hereunder to vary any of the terms and conditions of the said contract or to extend time for performance of contract by the contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by DAV against the contractor/supplier under the contract and forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variations or extension being granted to the contractor or for any forbearance, act or omission on the part of DAV or any indulgence by DAV to the contractor or by any such matter or thing whatsoever, which under the law relating to the sureties would, but for this provision, have effect of so relieving us.
3. This guarantee shall be in addition to any other guarantee or security whatsoever DAV may now or at any time have in relation to the performance of the works/equipment and DAV shall have full authority to take re-course or to enforce this security in preference to any other guarantee or security which the DAV may have or obtained and no forbearance on the part of DAV in enforcing or requiring enforcement of any other security shall have the effect of releasing the Bank from its liability hereunder.
4. This guarantee shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier/ contractor, but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to DAV in terms thereof are paid by the Bank or till expiry of the Bank Guarantee including claim period of Bank Guarantee, whichever is earlier.
5. The Bank Guarantee in no event be terminable, for any change in the constitution of the Guarantor Bank or for any other reasons whatsoever and the liability of the Guarantor Bank hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, or agreed with or without knowledge or consent of DAV, by or between Supplier/ Contractor and the Bank.
6. The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the bank in terms hereof, shall not be otherwise effected or suspended by reasons of any dispute or disputes having been raised

by the supplier/contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial of liability by the supplier/contractor stopping or preventing or purporting to stop or prevent any payment by the Bank to DAV in terms hereof.

- 7. The amount stated in any notice of demand addressed by DAV to the Guarantor as liable to be paid to DAV by the supplier/contractor or as suffered or incurred by DAV on account of any losses or damages, costs, charges and / or expenses shall as between the Bank and DAV be conclusive of the amount so liable to be paid to DAV or suffered or incurred by DAV as the case may be and payable by the Guarantor to DAV in terms hereof subject to a maximum of Rs(Rupees only).
- 8. Unless demand or claim under this Guarantee is made on the Guarantor in writing within 12 Months after the date of expiry of the Guarantee, the Guarantor shall be discharged from all liabilities under this Guarantee there under.

Notwithstanding anything contained herein before our liability under this guarantee is restricted to Rs. (Rupees only).
This guarantee will expire on.....Any claim under this Guarantee must be received by us within 12 Months after the date of expiry.

Signed this day of at.....

For and on behalf of Bank

WITNESS.

- 1. _____

- 2. _____

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

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

DAV Public School,
7BLM-A, Srivijaynagar, Anupgarh, Raj.-335704

In consideration of the DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called "DAV") which expression shall unless repugnant to the subject or context include its successors and assigns having awarded to M/s..... (hereinafter called "the Supplier/Contractor") having its registered Head Office at..... which expression shall unless repugnant to the subject or context includes its successors and assigns) a Contract in terms inter-alia of DAV's letter NO.....dated.....and the Contract/Purchase Conditions of DAV and upon the condition of the Supplier/Contractor furnishing Security for the performance of the Supplier's obligations and /or discharge of the contractor's/supplier's liability under and/or in connection with the said supply contract upto a sum of Rs..... (Rupees..... only). We, theBank (hereinafter called "The Bank") which expression shall unless repugnant to the subject or context include its successors and assigns having our registered office at and branch office at hereby undertake and guarantee payment to DAV forthwith on the same day on demand in writing and without protest or demur of any and all moneys payable by the supplier/contractor to DAV under, in respect or in connection with the said contract inclusive of all the losses, damages, costs, charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by DAV to the Bank with reference to this guarantee upto and aggregate limit of Rs.....(Rupees.....only) and the bank hereby agree with DAV that:

1. This Guarantee shall be continuing guarantee and shall remain valid and irrevocable for all claims of DAV and liabilities of Supplier/Contractor till the date of expiry of BG i.e.....The claim period of the Bank Guarantee shall be for a period of 12 months after the date of expiry of BG.
2. This Guarantee shall be in addition to any other Guarantee or Security whatsoever that DAV now or at any time have in relation to the Supplier's obligations/liabilities under and/or in connection with the said supply/contract, and DAV shall have full authority to take recourse or to enforce this Security in preference to any other Guarantee or Security which DAV may have or obtain and no forbearance on the part of DAV in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its liability hereunder.
3. DAV shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other security in respect of the Supplier's/Contractor's obligations and/ or liabilities under or in connection with the said supply/contract or to grant time and / or indulgence to the supplier / contractor or to increase or otherwise vary the prices or the total contract value

or to release or to forbear from enforcement of all or any of the conditions under the said supply / contract and / or the remedies of DAV under any other security/securities now or hereafter held by DAV and no such dealings, increase(s) or other indulgence(s) or arrangement(s) with the supplier / contractor or releasing or forbearance whatsoever shall have the effect of releasing the Bank from its full liability to DAV hereunder or prejudicing rights of DAV against the Bank.

4. This Guarantee shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier / contractor but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to DAV in terms thereof or till expiry of the Bank Guarantee including claim period of Bank Guarantee, whichever is earlier.
5. The Bank Guarantee in no event be terminable, for any change in the constitution of the Guarantor Bank or for any other reasons whatsoever and the liability of the Guarantor Bank hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, or agreed with or without knowledge or consent of DAV, by or between Supplier/ Contractor and the Bank.
6. The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the Bank in terms hereof shall not be otherwise affected or suspended by reason of any dispute or disputes having been raised by the supplier / contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial or liability by the supplier/ contractor stopping/ preventing or purporting to stop or prevent any payment by the Bank to DAV in terms thereof.
7. The amount stated in any notice of demand addressed by DAV to the Guarantor as liable to be paid to DAV by the supplier/contractor or as suffered or incurred by DAV on account of any losses or damages, costs, charges and / or expenses shall as between the Bank and DAV be conclusive of the amount so liable to be paid to DAV or suffered or incurred by DAV as the case may be and payable by the Guarantor to DAV in terms hereof subject to a maximum of Rs(Rupeesonly),
8. Unless demand or claim under this Guarantee is made on the Guarantor in writing within 12 months after the date of expiry of the Guarantee i.e. upto..... the Guarantor shall be discharged from all liabilities under this Guarantee there under.

Notwithstanding anything contained herein before our liability under this guarantee is restricted to Rs. (Rupees.....only). This guarantee will expire on Any claim under this Guarantee must be received by us within 12 months after the date of expiry.

For and on behalf of the Bank

Place: _____

Date: _____

WITNESS:

1.

2.

**PERFORMA OF BANK GUARANTEE
FOR INTEREST BEARING MOBILIZATION ADVANCE**

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

DAV Public School,
7BLM-A, Srivijaynagar, Anupgarh, Raj.-335704

In consideration of the DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called "DAV" which expression shall unless repugnant to the subject or context include its successor and assigns) having agreed under the terms and conditions of Contract No. _____ dated _____ made between M/s. (hereinafter called the "The Supplier /Contractor") having its Registered Head Office at which expression shall unless repugnant to the subject or context include its successors and assigns and DAV in connection with (name of work) (hereinafter called "the said contract") to make at the request of the Contractor a Mobilization Advance of Rs. _____ carrying interest @ ... % p.a. for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable to DAV, we the Bank (hereinafter called "The Bank") which expression shall unless repugnant to the subject or context include its successor and assigns and having our registered office at and branch office at here by unconditionally and irrevocably undertake and guarantee payment to DAV forthwith on the same day on demand in writing and without protest or demur the said advance along with interest as provided according to the terms and conditions of the contract up to and aggregate limit of Rs. (Rupeesonly) inclusive of interest @ ... % p.a and the Bank hereby agree with DAV that:

1. This Guarantee shall be continuing guarantee and shall remain valid and irrevocable for all claims of DAV and liabilities of tenderer till the date of expiry of BG i.e.....The claim period of the Bank Guarantee shall be for a period of 12 months after the date of expiry of BG.
2. DAV shall be the sole judge of and as to whether the amount claimed has fallen due to DAV under the said agreement or whether the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by DAV on account of the said advance together with interest not being recovered in full and the decision of DAV that the amount has fallen due from' contractor or the said Contractor has not utilized the said advance or any part thereto for the purpose of the contract and as to the amount or amounts of loss or damage caused to or suffered by DAV shall be final and binding on us.
3. Guarantee herein contained shall remain in full force and effect till DAV certify that the said advance with interest has been fully recovered from the said contractor and accordingly discharges this Guarantee. DAV shall have no claims under this Guarantee unless a notice of the claims under this Guarantee has been served on the Bank within 12 months after the expiry of the said Bank Guarantee in which case the same shall be enforceable against the Bank.

4. This Guarantee shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier / contractor but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to DAV in terms thereof or till the expiry of the Bank Guarantee including claim period of Bank Guarantee, whichever is earlier.
5. The Bank Guarantee in no event be terminable, for any change in the constitution of the Guarantor Bank or for any other reasons whatsoever and the liability of the Guarantor Bank hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, or agreed with or without knowledge or consent of DAV, by or between Supplier/ Contractor and the Bank.
6. The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the Bank in terms hereof shall not be otherwise affected or suspended by reason of any dispute or disputes having been raised by the Supplier /Contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial or liability by the Supplier/ Contractor stopping/ preventing or purporting to stop or prevent any payment by the Bank to DAV in terms thereof.
7. DAV shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee or indemnity from time to time to vary any of the terms and conditions of the said Contract or the advance or to extend time of performance by the said Contractor or to postpone for any time and from time to time of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of terms and conditions governing the said Contract or the advance or securities available to DAV and the said Bank shall not be released from its liability under these presents by any exercise by DAV of the liberty with reference to the matters aforesaid or by reasons of time being given to the said Contractor or any other forbearance, act or omission on the part of DAV or any indulgence by DAV to the said Contractor or of any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of so releasing the bank from its such liability.
8. It shall not be necessary for DAV to proceed against the Contractor before proceeding against the Bank and Guarantee herein contained shall be enforceable against the Bank notwithstanding any security which DAV may have obtained or obtain from the Contractor or shall at the time when proceedings are taken against the Bank hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before our liability under this guarantee is restricted to Rs. (Rupees.....only). This guarantee will expire on Any claim under this Guarantee must be received by us within 12 months after the date of expiry.

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

Place: _____

Date: _____

Witness:

1. _____

2. _____

FORM OF EXTENSION OF BANK GUARANTEE
(On Non-judicial stamp paper of same value on which original BG was executed)

Ref. No.: _____

Date: _____

To,

DAV public school / building sub-committee,

Dear Sir

Subject: Extension of Bank Guarantee No..... for
(indicate value of Bank Guarantee).....favouring yourselves expiring
on on account of M/s(Name of
Contractor/Supplier).....in respect of contract for(insert contract
name)....., hereafter called original Bank Guarantee)

At the request of M/s , we Bank branch office at
and having its Head office at do hereby extend our liability under the
above mentioned guarantee No. dated for a further
period of year/ months from to expire on
.....

Except as provided above, all other terms and conditions of original Bank Guarantee
No.dated shall remain unaltered and binding.

Please treat this as an integral part of the original Guarantee to which it would be
deemed to have been attached.

Signature.....

Name.....

Designation.....

Authorized vide Power of Attorney

No.

Dated.....

PERFORMA OF BANK GUARANTEE
(IN LIEU OF GUARANTEE FOR ANTI-TERMITE TREATMENT)

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

DAV Public School,
7BLM-A, Srivijaynagar, Anupgarh, Raj.-335704

In consideration of the DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called "**DAV**") which expression shall unless repugnant to the subject or context include its successors and assigns having awarded to M/s.....
.....(hereinafter called "the **Supplier/Contractor**") having its registered Head Office at..... which expression shall unless repugnant to the subject or context includes its successors and assigns) a Contract in terms inter-alia of **DAV's letter NO.....dated.....** and the Contract/Purchase Conditions of DAV and upon the condition of the Supplier/Contractor furnishing Security for the performance of the Supplier's obligations and /or discharge of the contractor's/supplier's liability **for removal of defects in Anti-termite treatment under the said contract** upto a **sum of Rs..... (Rupees..... only)**. We, theBank (hereinafter called "**The Bank**") which expression shall unless repugnant to the subject or context include its successors and assigns having our registered office at.....and branch office at hereby undertake and guarantee payment to DAV forthwith on the same day on demand in writing and without protest or demur of any and all moneys payable by the supplier/contractor to DAV under, in respect or in connection with the said contract inclusive of all the losses, damages, costs, charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by DAV to the Bank with reference to this guarantee upto and aggregate limit of Rs.....(Rupees.....only) and the bank hereby agree with DAV that:

1. This Guarantee shall be continuing guarantee and shall remain valid and irrevocable for all claims of DAV and liabilities of Supplier/Contractor till the **date of expiry of BG i.e.....** The claim period of the Bank Guarantee shall be for a period of 12 months after the date of expiry of BG.
2. This Guarantee shall be in addition to any other Guarantee or Security whatsoever that DAV now or at any time have in relation to the Supplier's obligations/liabilities under and/or in connection with the said supply/contract, and DAV shall have full authority to take recourse or to enforce this Security in preference to any other Guarantee or Security which DAV may have or obtain and no forbearance on the part of DAV in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its liability hereunder.
3. DAV shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other security in respect of the Supplier's/Contractor's obligations and/ or liabilities under or in connection with the said supply/contract or to grant time and / or indulgence to the supplier / contractor or to increase or otherwise vary the prices or the total contract value or to release or to forbear from enforcement of all or any of the conditions under the said supply / contract and / or the remedies of DAV under any

other security/securities now or hereafter held by DAV and no such dealings, increase(s) or other indulgence(s) or arrangement(s) with the supplier / contractor or releasing or forbearance whatsoever shall have the effect of releasing the Bank from its full liability to DAV hereunder or prejudicing rights of DAV against the Bank.

4. This Guarantee shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier / contractor but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to DAV in terms thereof or till expiry of the Bank Guarantee including claim period of Bank Guarantee, whichever is earlier.
5. The Bank Guarantee in no event be terminable, for any change in the constitution of the Guarantor Bank or for any other reasons whatsoever and the liability of the Guarantor Bank hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, or agreed with or without knowledge or consent of DAV, by or between Supplier/ Contractor and the Bank.
6. The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the Bank in terms hereof shall not be otherwise affected or suspended by reason of any dispute or disputes having been raised by the supplier / contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial or liability by the supplier/ contractor stopping/ preventing or purporting to stop or prevent any payment by the Bank to DAV in terms thereof.
7. The amount stated in any notice of demand addressed by DAV to the Guarantor as liable to be paid to DAV by the supplier/contractor or as suffered or incurred by DAV on account of any losses or damages, costs, charges and / or expenses **incurred in rectification of defects or re-execution of Anti-termite treatment** shall as between the Bank and DAV be conclusive of the amount so liable to be paid to DAV or suffered or incurred by DAV as the case may be and payable by the Guarantor to DAV in terms hereof subject to a maximum of Rs(Rupees only),
8. Unless demand or claim under this Guarantee is made on the Guarantor in writing within 12 months after the date of expiry of the Guarantee i.e. uptothe Guarantor shall be discharged from all liabilities under this Guarantee there under.

Notwithstanding anything contained herein before our liability under this guarantee is restricted to Rs. (Rupees.....only). This guarantee will expire on Any claim under this Guarantee must be received by us within 12 months after the date of expiry.

For and on behalf of the Bank

Place: _____

Date: _____

WITNESS: 1. _____

2. _____

FORM FOR GUARANTEE BOND FOR ANTI-TERMITE TREATMENT

THIS AGREEMENT made this_____ day of Two thousand _____ between M/s_____ (hereinafter called the guarantor of the one part and DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704, hereinafter called the DAV hereinafter called the OWNER of the other part.

Whereas this agreement is supplementary to the contract hereinafter called the contract dated_____ made between the guarantor of the one part and DAV (India) Ltd., of the other part whereby the contractor inter-alia, understood to render the buildings and structures in the said contract recited, completed, termite proof. And whereas the guarantor agreed to give a guarantee to the effect that the said structure will remain termite proof for TEN YEARS to be so reckoned from the date after the maintenance period prescribed in the contract expires.

During this period of guarantee the guarantor shall make good all defects and for that matter shall replace at his risk and cost such wooden member as may be damaged by termite and in case of any other defect being found, he shall render the building termite proof at his cost to the satisfaction of the Consultant-in-Charge and shall commence the works of such rectification within seven days from date of issuing notice from the Consultant-in-Charge calling upon him to rectify the defects falling which the work shall be got done by DAV/ OWNER by some other contractor at the guarantor's cost and risk and in the latter case the decision of the Consultant-in-Charge as to the cost recoverable from the guarantor shall be final and binding.

That if the Guarantor fails to execute the Anti-Termite treatment or commits breaches hereunder then the Guarantor will indemnify DAV against all losses damages, cost expenses or otherwise which may be incurred by him by reasons of any default on the part of the guarantor in performance and observance of this supplemental Agreement. As to the amount of loss and or damage and/or cost incurred by DAV/ OWNER decision of the Consultant-in-Charge will be final and binding on the parties.

In witness where of these presents have been executed by the Guarantor_____ and by_____ for and on behalf of DAV on the day of month and year first above written.

Signed sealed and delivered by (Guarantor)

IN THE PRESENCE OF:

1.

2.

Signed for and on behalf of DAV by/ in presence of: 1.

2. _____

PERFORMA OF BANK GUARANTEE
(IN LIEU OF GUARANTEE FOR WATER-PROOFING WORKS)

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

DAV Public School,
7BLM-A, Srivijaynagar, Anupgarh, Raj.-335704

In consideration of the DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called "**DAV**") which expression shall unless repugnant to the subject or context include its successors and assigns having awarded to M/s..... (hereinafter called "the **Supplier/Contractor**") having its registered Head Office at.....which expression shall unless repugnant to the subject or context includes its successors and assigns) a Contract in terms inter-alia of **DAV's letter NO.....dated.....** and the Contract/Purchase Conditions of DAV and upon the condition of the Supplier/Contractor furnishing Security for the performance of the Supplier's obligations and /or discharge of the contractor's/supplier's liability **for removal of defects in Water Proofing treatment under the said contract** upto a **sum of Rs..... (Rupees..... only)**. We, theBank (hereinafter called "**The Bank**") which expression shall unless repugnant to the subject or context include its successors and assigns having our registered office at.....and branch office at hereby undertake and guarantee payment to DAV forthwith on the same day on demand in writing and without protest or demur of any and all moneys payable by the supplier/contractor to DAV under, in respect or in connection with the said contract inclusive of all the losses, damages, costs, charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by DAV to the Bank with reference to this guarantee upto and aggregate limit of Rs.....(Rupees.....only) and the Bank hereby agree with DAV that:

1. This Guarantee shall be continuing guarantee and shall remain valid and irrevocable for all claims of DAV and liabilities of Supplier/Contractor till the **date of expiry of BG i.e.....** The claim period of the Bank Guarantee shall be for a period of 12 months after the date of expiry of BG.
2. This Guarantee shall be in addition to any other Guarantee or Security whatsoever that DAV now or at any time have in relation to the Supplier's obligations/liabilities under and/or in connection with the said supply/contract, and DAV shall have full authority to take recourse or to enforce this Security in preference to any other Guarantee or Security which DAV may have or obtain and no forbearance on the part of DAV in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its liability hereunder.
3. DAV shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other security in respect of the Supplier's/Contractor's obligations and/ or liabilities under or in connection with the said supply/contract or to grant time and / or indulgence to the supplier / contractor or to increase or otherwise vary the prices or the total contract value or to release or to forbear from enforcement of all or any of the conditions under the said supply / contract and / or the remedies of DAV under any other security/securities now or hereafter held by DAV and no such dealings,

increase(s) or other indulgence(s) or arrangement(s) with the supplier / contractor or releasing or forbearance whatsoever shall have the effect of releasing the Bank from its full liability to DAV hereunder or prejudicing rights of DAV against the Bank.

4. This Guarantee shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier / contractor but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to DAV in terms thereof or till expiry of the Bank Guarantee including claim period of Bank Guarantee, whichever is earlier.
5. The Bank Guarantee in no event be terminable, for any change in the constitution of the Guarantor Bank or for any other reasons whatsoever and the liability of the Guarantor Bank hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, or agreed with or without knowledge or consent of DAV, by or between Supplier/ Contractor and the Bank.
6. The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the Bank in terms hereof shall not be otherwise affected or suspended by reason of any dispute or disputes having been raised by the supplier / contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial or liability by the supplier/ contractor stopping/ preventing or purporting to stop or prevent any payment by the Bank to DAV in terms thereof.
7. The amount stated in any notice of demand addressed by DAV to the Guarantor as liable to be paid to DAV by the supplier/contractor or as suffered or incurred by DAV on account of **any losses or damages, costs, charges and / or expenses incurred in rectification of deficiencies or re-execution of Water Proofing treatment** shall as between the Bank and DAV be conclusive of the amount so liable to be paid to DAV or suffered or incurred by DAV as the case may be and payable by the Guarantor to DAV in terms hereof subject to a maximum of Rs.....(*Rupees* *only*),
8. Unless demand or claim under this Guarantee is made on the Guarantor in writing within 12 months after the date of expiry of the Guarantee i.e. uptothe Guarantor shall be discharged from all liabilities under this Guarantee there under.

Notwithstanding anything contained herein before our liability under this guarantee is restricted to Rs..... (*Rupees.....only*). This guarantee will expire on Any claim under this Guarantee must be received by us within 12 months after the date of expiry.

For and on behalf of Bank

Place

Date

WITNESS: 1. _____

2. _____

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

The agreement made thisday ofTwo thousand One and
between.....(hereinafter called Guarantor of the one part) and the DAV
Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704
(hereinafter called the Execution Agency of the other part).

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

AND WHEREAS the Guarantor agreed to give a guarantee to the effect that the said
structures will remain water and leak proof for ten years from the date of handing over
of the structure of water proofing treatment.

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

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

- a) Misuse of roof shall mean any operation, which will damage proofing treatment, like
chopping of fire wood and things of the same nature which might cause damage to
the roof.
- b) Alternation shall mean construction of an additional storey or a part of the roof or
construction adjoining to existing roof whereby proofing treatment is removed in
parts
- c) The decision of the Consultant-in-Charge with regard to cause of leakage shall be
final during this period of guarantee, the Guarantor shall make good all defects
and in case of any defect being found render the building water proof to the
satisfaction of the Consultant-in-Charge at his cost and shall commence the work
for such rectification within seven days from the date of issue of notice from the
Consultant-in-Charge calling upon him to rectify the defects failing which the work
shall be got done by the DAV by some other Contractor at the guarantor's cost and

risk. The decision of Consultant-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

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

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

Signed, sealed and delivered by Obligator in the presence of-

1. _____

2. _____

Signed for and on behalf of the DAV (India) Limited by _____

In presence of:

1. _____

2. _____

**PERFORMA OF
INDENTURE FOR SECURED ADVANCE OR CREDIT**

THIS INDENTURE made this day of _____

Between

_____ (hereinafter called the contractor) which expression shall where the Context as admits or implies be deemed to include his executor/administrators and assign of the one part

AND

DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called the 'DAV') which expression shall where the context so admits or implies be deemed to include its successors and assign of the other part.

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

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

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

1. That all sums given as advance or credit by DAV to the Contractor as aforesaid shall be employed by the Constructor in or toward the execution of the said works and for no other purpose whatsoever.
2. That the material for which the advance or credit is given are offered to and accepted by DAV as security and are absolutely the Contractor's own property and free from encumbrances of any kind the Contractor will not make any application for or receives further advance or credit on the security or material which are not absolutely his own property and free from encumbrances of any kind and the Contractor shall indemnify DAV against any claims to any material in respect of which advance or credit has been made to him as aforesaid.
3. That the said material and all other material on the security of which any further advance or advances or credit may be given as aforesaid (hereinafter called the said materials) shall be used by the Contractor s solely in the execution of the said works in accordance with the direction of DAV and in terms of said agreement.
4. That the Contractor shall make at his own cost all necessary and adequate arrangement for the proper safe custody and protection against all risks of the

said material and that until used in the construction as aforesaid the material shall remain at the site of the said works in Contractor's custody and on his responsibility and shall at all times be open to inspection by The Engineer. In the events of the materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in greater degree than in due to reasonable use and wear thereof the Contractor will replace the same with other materials of like quality of repair and make good the same as required by DAV.

5. That said material shall not on any account be removed from the site of work except with the written permission of DAV.
6. That the advance shall be repayable in full when or before Contractor receives payment from DAV of the price payable to him for the said work under the term and provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done then on the occasion of each payment DAV will be at liberty to make a recovery from the Contractor's bill from such payments by deducting there from the value of the said materials than actually used in the contraction and in respect of which recovery has not been made previously. The value of this purpose being determined in respect of each description of materials at the rates at which the amounts of the advance as made under these presents was calculated.
7. That if the Contractor shall at any time make at any default in the performance of observance in respect of any of the terms and provisions of the said agreement or of that provisions the total amount of the advance or advances that may still be owing to DAV, shall immediately on the happening of such default be repayable by the Contractor to DAV together with interest thereon at 12% p.a. from the date of respective dated to such advance or advances to the date of payment and with all costs. Damages and expenses incurred by The Engineer in or for recovery hereof or the Contractor hereby covenants and agrees with The Engineer to repay and pay the same respective to him accordingly.
8. That the Contractor hereby charges all the said materials with the repayment to DAV of all sums advances or credit as aforesaid and all costs. Charges, damages and expenses payable under these presents PROVIDED ALWAYS it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and wherever the covenant for payment and repayment herein before contained shall be become enforceable and the money owing shall not be paid in accordance therewith. DAV may at any time thereafter adopt all or any of the following courses he may deem best:
 - (A) Seize the utilize the said material or any part thereof in the completion of the said works in accordance with the provision in that behalf contained in the said agreement debating the Contractor with the actual cost of effecting such completion and the amount due in respect of advance or credit under these presents and crediting the Contractor with value of work done as if he has carried it out in accordance with the said agreement and the rates thereby provided if the balance is against the Contractor is to pay the same to DAV on demand.

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

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

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

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

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

Signed Sealed and delivered by

<Contractor>

< DAV >

AGREEMENT FORM

This agreement made this day of (Month) (Year),

BETWEEN

the DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter referred to as the "DAV" which expression shall include its administrators, successors, executors and assigns) of the one part

AND

M/s _____(NAME OF CONTRACTOR) (hereinafter referred to as the 'Contractor' which expression shall unless the context requires otherwise include its administrators, successors, executors and permitted assigns) of the other part.

WHEREAS, DAV, has desirous of construction of **(NAME OF WORK)** (hereinafter referred to as the "PROJECT") on behalf of the **(NAME OF OWNER/MINISTRY)** (hereinafter referred to as "OWNER"), had invited tenders as per Tender documents vide NIT No. _____.

AND WHEREAS _____**(NAME OF CONTRACTOR)** had participated in the above referred tender vide their tender dated _____ and DAV has accepted their aforesaid tender and award the contract for _____**(NAME OF PROJECT)** on the terms and conditions contained in its Letter of Intent No. _____ and the documents referred to therein, which have been unequivocally accepted by _____**(NAME OF CONTRACTOR)** vide their acceptance letter dated _____ resulting into a contract.

NOW THEREFORE THIS DEED WITNESSETH AS UNDER:

ARTICLE 1.0 – AWARD OF CONTRACT

1.1 SCOPE OF WORK

DAV has awarded the contract to **(NAME OF CONTRACTOR)** for the work of **(NAME OF WORK)** on the terms and conditions in its letter of intent No. _____ dated _____ and the documents referred to therein. The award has taken effect from **(DATE)** i.e. the date of issue of aforesaid letter of intent. The terms and expressions used in this agreement shall have the same meanings as are assigned to them in the "Contract Documents" referred to in the succeeding Article.

ARTICLE 2.0 – CONTRACT DOCUMENTS

2.1 The contract shall be performed strictly as per the terms and conditions stipulated herein and in the following documents attached herewith (hereinafter referred to as "Contract Documents").

- a) DAV Notice Inviting Tender vide No. _____ date _____ and DAV's tender documents consisting of:
 - i) General Conditions of Contract (GCC) along with amendments/errata to GCC (if any) issued (Volume-I).
 - ii) Special Conditions of Contract including Appendices & Annexures, Volume-II.

iii) Bill of Quantities alongwith amendments/corrigendum of schedule items, if any (Volume-II).

iv) _____

v) _____

b) (NAME OF CONTRACTOR) letter proposal dated _____ and their subsequent communication:

i) Letter of Acceptance of Tender Conditions dated _____

ii) _____

iii) _____

2.2 DAV's detailed Letter of Intent No. _____ dated _____ including Bill of Quantities. Agreed time schedule, Contractor's Organisation Chart and list of Plant and Equipment submitted by Contractor.

2.3 All the aforesaid contract documents referred to in Para 2.1 and 2.2 above shall form an integral part of this Agreement, in so far as the same or any part thereof column, to the tender documents and what has been specifically agreed to by DAV in its Letter of Intent. Any matter inconsistent therewith, contrary or repugnant thereto or deviations taken by the Contractor in its "TENDER" but not agreed to specifically by DAV in its Letter of Intent, shall be deemed to have been withdrawn by the Contractor without any cost implication to DAV. For the sake of brevity, this Agreement along with its aforesaid contract documents and Letter of Intent shall be referred to as the "Contract".

ARTICLE 3.0 – CONDITIONS & CONVENANTS

3.1 The scope of Contract, Consideration, terms of payments, advance, security deposits, taxes wherever applicable, insurance, agreed time schedule, compensation for delay and all other terms and conditions contained in DAV's Letter of Intent No. _____ dated _____ are to be read in conjunction with other aforesaid contract documents. The contract shall be duly performed by the contractor strictly and faithfully in accordance with the terms of this contract.

3.2 The scope of work shall also include all such items which are not specifically mentioned in the Contract Documents but which are reasonably implied for the satisfactory completion of the entire scope of work envisaged under this contract unless otherwise specifically excluded from the scope of work in the Letter of Intent.

3.3 Contractor shall adhere to all requirements stipulated in the Contract documents.

3.4 Time is the essence of the Contract and it shall be strictly adhered to. The progress of work shall conform to agreed works schedule/contract documents and Letter of Intent.

3.5 This agreement constitutes full and complete understanding between the parties and terms of the presents. It shall supersede all prior correspondence to the extent of inconsistency or repugnancy to the terms and conditions contained in Agreement. Any modification of the Agreement shall be effected only by a written instrument signed by the authorized representative of both the parties.

3.6 The total contract price for the entire scope of this contract as detailed in Letter

of Intent is Rs. _____ (Rupees _____ only), which shall be governed by the stipulations of the contract documents.

ARTICLE 4.0 – NO WAIVER OF RIGHTS

- 4.1 Neither the inspection by DAV or the Consultant-in-Charge or Owner or any of their officials, employees or agents nor order by DAV or the Consultant-in-Charge for payment of money or any payment for or acceptance of, the whole or any part of the work by DAV or the Consultant-in-Charge nor any extension of time nor any possession taken by the Consultant-in-Charge shall operate as waiver of any provisions of the contract, or of any power herein reserved to DAV, or any right to damage herein provided, nor shall any waiver of any breach in the contract be held to be a waiver or any other or subsequent breach.

ARTICLE 5.0 – GOVERNING LAW AND JURISDICTION

- 5.1 The Laws applicable to this contract shall be the laws in force in India and jurisdiction of Delhi Court (s) only.

- 5.2 Notice of Default

Notice of default given by either party to the other party under the Agreement shall be in writing and shall be deemed to have been duly and properly served upon the parties hereto, if delivered against acknowledgment due or by FAX or by registered mail duly addressed to the signatories at the address mentioned herein above.

IN WITNESS WHEREOF, the parties through their duly authorized representatives have executed these presents (execution whereof has been approved by the Competent Authorities of both the parties) on the day, month and year first above mentioned at New Delhi.

For and on behalf of:

For and on behalf of:

(NAME OF CONTRACTOR)

M/s DAV (India) LIMITED

WITNESS:

WITNESS:

1.

1.

UNDERTAKING FOR FINANCIAL ASSISTANCE

(To be submitted by the contractor on non-judicial stamp paper of Rs. 100/- (Rupees Hundred only) purchased in Delhi & duly attested by Notary Public at Delhi)

DAV has awarded the (Name of the Project)..... vide LoA No.
Dated..... and Agreement dated....., to M/s.....,
having its Regd. Office/ Head Office at, hereinafter referred to as
"contractor".

I, S/o, R/o.....,
Working as....., duly authorized by the Company Resolution dated..... or on
behalf of the Partnership (as the case may be), do hereby undertake and affirm that;

1. I am the Sole Proprietor/Authorized signatory of the contractor.
2. In terms of the Clause 23.2 of the General Conditions of Contract the contractor is entitled for payment only when DAV receives the corresponding payment against the bill from the client/owner of the project. However, since no corresponding payment against the bill has been released by the client/owner, on the contractor's specific request for financial assistance under Clause 23.4 of the General Conditions of Contract, DAV has shown its willingness to extend financial assistance amounting to Rs. (Rs) to the contractor for use in execution of the aforementioned work(s).
3. The sum(s) released under the said Clause 23.4 as financial assistance by DAV shall be utilised by the contractor in or toward the execution of the said works and for no other purpose whatsoever.
4. In consideration of DAV agreeing to pay Rs. (Rs) I undertake that DAV shall be entitled to adjust/recover the said sum(s) released as financial assistance along with simple interest @.....% p.a. on the said financial assistance from the contractor.
5. The sum(s) released under the said Clause 23.4 as financial assistance along with interest thereon shall be adjusted/recovered by DAV from the corresponding payment received from the client/owner as stipulated in the said Clause 23.4 or at DAV's sole discretion from any other dues at any stage of the contract or from any other work(s) being executed by contractor on behalf of DAV.

Verified atthis.....day of

Signature of the Authorized Person

ATTESTED BY NOTARY PUBLIC

Undertaking by Contractor to have complied with provisions of Contract Labour (Regulation & Abolition) Act & Rules, EPF and ESI Obligations.
(To be submitted along with each RA/Final Bill)

(Clause 73.4.2, Section-3)

I _____ S/o Sh.
authorised _____ representative of
M/s _____
_____, do hereby declare and undertake as under:

2. That in the capacity of independent Contractor for DAV public school at _____

_____ I
and the sub-contractor engaged by me for the above said work, if any, have
complied with the provisions of Contract Labour (Regulation & Abolition) Act,
1970 by holding a valid license under the Act and Rules thereto. I have paid the
wages **for the month of** _____

These wages are not less than the minimum rates applicable to all the employees
and no other dues are payable to any employee.

3. That I and the sub-contractor engaged by me for the above said work, if any,
have covered all the eligible employees under Employees Provident Funds and
Miscellaneous Provisions Act, 1952 and the Employees State Insurance Act,
1948 and deposited the Contributions **for the months up to**
_____ and as such no amount towards EPF/ESI
contributions, whatsoever is payable, is pending.

4. I, further declare and undertake that in case any liability pertaining to my
employees or towards employees of the sub-contractor engaged by me for the
above said work, if any, arises in future, I shall be fully responsible for all
consequences. In case any liability is discharged by DAV public school due to
my/ my sub-contractor's lapse, I undertake to reimburse the same or DAV
(India) Ltd. is authorised to deduct the same from my dues at this Project or at
any other Project.

Authorised Signatory
(Name & Seal of Company)

Date: _____

Witness:

1. _____

2. _____

ANNEXURE-4.8A**Performa for final completion certificate to be issued by DAV
(Clause no. 35, section-3)****No.****Dated****TO WHOM IT MAY CONCERN**

This is to certify that (contractor)
..... has successfully completed
and handed over the work/Project of
_____ as per Technical specifications, drawings and
meeting norms of contract agreement/MOU. The details of project are given below:-

S. No.	Description	Details
1	Name of Project/ Work	
2	Sanction letter/ Agreement No. & date	
3	Sanctioned cost	Rs.
4	Actual completion cost	Rs.
5	Date of commencement	
6	Date of completion (Capital work)	
7	Date of completion (Commissioning part)	
8	Performance	Satisfactory / Good / Very-Good / Excellent

Signature and stamp of clients
(Name of client)

(This Indenture has to be submitted in a stamp paper (purchased from Delhi only) of Rs 100 and to be signed and notarized at Delhi only))

INDEMNITY BOND

This Indemnity Bond is made on this ____ day of _____, 2021

By and Between

_____ (hereinafter called the Contractor/Indemnifier) which expression shall unless be repugnant to the context include its successors and assigns of the first part.

in favour of

DAV Public school, located at DAV, 7BLM-A, Srivijaynagar, Anupgarh, Raj. - 335704 (hereinafter called DAV) which expression shall unless be repugnant to the context include its successors and assigns of the second part.

WHEREAS vide LOA bearing No _____ dated _____ the Contractor was awarded the work of _____ (hereinafter referred to as "said work").

AND WHEREAS an agreement dated _____ was thereafter entered into between the parties regarding the said work (hereinafter called the said agreement).

AND WHEREAS, the Contractor, vide _____ (details of the communication received) has specifically requested DAV to directly make payment amounting to Rs. _____ (the amount to be paid) to _____ (name of the subcontractor/vendor) on behalf of the Contractor, not to be construed as a precedent in any manner.

AND WHEREAS, the Contractor has in continuation to the aforementioned request forwarded the Bank details of _____ (name of the subcontractor/vendor) where DAV is required to make the payment.

AND WHEREAS, in order to indemnify DAV against any loss/claim/dispute arising out of release of the payment of aforementioned amount directly to _____ —(name of the subcontractor/vendor) by DAV, the Contractor has agreed to execute an indemnity bond in favour of DAV.

NOW, THEREFORE, THIS INDEMNITY BOND PROVIDES AS FOLLOWS:

- 1) That the Contractor undertakes/certifies that the amount of Rs _____ to be released directly to _____ (name of the subcontractor/ vendor) by DAV has been verified and is found to be payable.
- 2) That the Contractor agrees to the said amount of Rs. _____ being deducted/ adjusted from any/all payment due or that may become due to the Contractor from DAV.

- 3) That the Contractor undertakes that payment to _____ (name of the subcontractor/ vendor) directly by DAV on its request shall not relieve Contractor from any of its liabilities or contractual obligations towards DAV and such release of payment by DAV shall not give rise to any contractual relations between DAV and _____ (name of the subcontractor/ vendor).
- 4) That the Contractor agrees to fully indemnify DAV against any loss/claim/dispute arising out of release of the direct payment to _____ (name of the subcontractor/ vendor) on behalf of the contractor.
- 5) That any dispute arising out of this indenture of Indemnity shall be subject to the exclusive jurisdiction of the courts at New Delhi only.

IN WITNESS WHEREOF the Contractor/Indemnifier herein has hereunto set his respective hand and seal on the day, month and year above first written.

Signed Sealed at Delhi and delivered by

Contractor/Indemnifier

Witness

- 1.**
- 2.**

Technical specifications

Please refer following links for CPWD technical specifications. The same shall be applicable always and wherever required.

1. CPWD technical specifications volume 01

<https://www.cpwd.gov.in/Publication/Specs2019V1.pdf>

2. CPWD technical specifications volume 02

<https://www.cpwd.gov.in/Publication/Specs2019V2.pdf>

SCOPE OF WORK

(CIVIL WORKS)

1 SCOPE OF WORK

The Scope of work shall generally comprise of but not limited to the following which shall be executed in following building/areas:

- a) Construction of new academic block,
- b) Renovation of existing office block.

The Tentative Quantities pertaining to all other works are mentioned in Annexure 1&2.

1.2 CIVIL, STRUCTURAL & ARCHITECTURAL WORKS

- 1.2.1 Finishing works (Plastering & Painting works)
- 1.2.2 Wood work/ WPC & UPVC Doors & Windows, Fire Doors, Flush Doors & Door hardware
- 1.2.3 Aluminum & Glass work (Structural Glazing)
- 1.2.4 Flooring works
- 1.2.5 Roofing & False Ceiling works
- 1.2.6 Water Proofing Works
- 1.2.7 Kitchen Equipment
- 1.2.8 Modular & Loose Furniture works and Chairs
- 1.2.9 Signage work
- 1.2.10 Art work
- 1.2.11 All other works as mentioned in SOR

1.3 PLUMBING, SANITARY, WATER SUPPLY, SEWERAGE AND DRAINAGE WORKS

- 1.3.1 Sanitary Fixtures and Fittings works
- 1.3.2 Internal and External Sewerage and Drainage works
- 1.3.3 Storm Water Drainage works
- 1.3.4 Water Supply works
- 1.3.5 Water Treatment Plants and Pumps
- 1.3.6 Rain Water Harvesting works
- 1.3.7 All other works as mentioned in SOR

1.4 FIRE FIGHTING WORKS

- 1.4.1 Fire Pump works
- 1.4.2 MS Piping, Valves and Accessories
- 1.4.3 Sprinkler system works
- 1.4.4 Fire Extinguishers
- 1.4.5 All other works as mentioned in SOR

1.5 ELECTRICAL WORKS

- 1.5.1 All conduit work including junction boxes, outlet boxes and wiring for lighting and power circuit
- 1.5.2 Switches, plug sockets, cover plates and other wiring accessories.
- 1.5.3 Cables (HT / LT) Mains and Sub-Mains.
- 1.5.4 Rising Main.
- 1.5.5 Supply and installation of HT switchgear
- 1.5.6 LT panel, Main Distribution / Sub Distribution panels, Final Distribution panels & Capacitor Panels.
- 1.5.7 Earthing (Grounding) System.
- 1.5.8 Lightning Protection System.
- 1.5.9 Installation of Lighting Fixtures (internal & external areas).
- 1.5.10 Data Networking System

- 1.5.11 EPABX System
- 1.5.12 Addressable Automatic Fire Alarm & Detection System
- 1.5.13 IP based CCTV System
- 1.5.14 Clean Agent Gas System for Server Room
- 1.5.15 Lighting Control System
- 1.5.16 UPS
- 1.5.17 Internal & External Lighting
- 1.5.18 All other works as mentioned in SOR

1.6 HVAC WORKS

- 1.6.1 VRV/VRF system
- 1.6.2 Pressurization and Ventilation system
- 1.6.3 All other works as mentioned in SOR

SECTION 1
(CIVIL, ARCHITECTURAL & INTERIOR WORKS)

1. GENERAL

The work in general shall be executed as per the description of the item, specifications attached and CPWD Specifications (Latest version). Wherever any reference to any Indian Standard Specifications is made in the document relating to this contract, the same shall be inclusive of all amendments issued there to or revision thereof, if any, up to the date of receipt of tender. The rates quoted by the contractor shall be inclusive of all items, included in these specifications and special conditions and nothing extra shall be payable whatsoever unless otherwise specified.

However, wherever required by PMC/ Engineer in charge, the contractor shall submit a detailed methodology for execution of the specific work and shall get the same approved before the start of that specific work.

For the specialized works contractor shall engage specialized agencies with prior approval of PMC / Engineer-In-Charge.

Wherever it is mentioned “at all levels” in Schedule of Rates/ Technical Specifications for any item, the same shall be considered for “at all heights” irrespective of height of the structural element viz. Columns, Walls, Retaining walls etc. Contractor to quote his rates accordingly and nothing extra shall be paid on this account.

Retaining wall, Basement structure shall be considered under works upto plinth level only irrespective of the height of the basement above the Ground Level.

2. CARRIAGE OF MATERIALS

The carriage and stacking of materials shall be done as per Sub-head No-1 of CPWD Specifications Volume-1. However, where CPWD specifications are not available, the work shall be carried out with prior approval of PMC/Engineer in charge.

3. MORTARS

The work shall be carried out as per CPWD specifications, Vol. -1, Sub-head No 3. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer-in-charge.

The cement used shall be Portland Pozzolana cement (fly ash based) conforming to IS 1489 (Part 1) and Sand conforming to Zone-II/III as per IS 383.

4. BRICK WORK

The work shall be carried out as per CPWD specifications, Vol. -1, Sub-head No - 6. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer in charge.

5. STONE WORK

The work shall be carried out as per CPWD specifications, Vol. -1, Sub-head No - 7 and other relevant IS codes. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer in charge.

6. MARBLE WORK

The work shall be carried out as per CPWD specifications, Vol. -1, Sub-head No - 8 and other relevant IS codes. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer in charge.

7. WOOD WORK, WPC AND UPVC WORK

The work shall be carried out as per CPWD specifications, Vol. -1, Sub-head No - 9 and other relevant IS codes. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer in charge.

7.1 Fabrication Drawings

10.1.1 The contractor shall prepare fabrication and erection drawings for major works on the basis of design drawings supplied to him and submit the same in triplicate to the Engineer-in-charge for review. Engineer-in-charge shall review and comment, if any, on the same. Such review, if any, by the Engineer-in-charge, does not relieve the contractor of any of his required guarantees & responsibilities. The contractor shall however be responsible to fabricate the structural members strictly conforming to specifications and reviewed drawings.

10.1.2 Review by Engineer-in-charge shall not absolve the contractor of his responsibility for the correctness of dimensions, adequacy of details and connections. One copy will be returned with or without comments to the contractor for necessary action.

10.1.3 The contractor shall supply three prints each of the final reviewed drawings to the Engineer-in-charge within a week since final review, at no extra cost for reference and records.

10.1.4 Fabrication and erection drawings shall be thoroughly checked and stamped "Approved for Construction" and signed by the responsible engineer of the Contractor and shall be released for construction by the contractor directly to his work site.

10.1.5 If any modification is made in the design drawing during the course of execution of the job, revised design drawings will be issued to the contractor. Further changes arising out of these shall be incorporated by the contractor in the fabrication drawings

already prepared at no extra cost and the revised fabrication drawings shall be duly got reviewed as per the above Clauses.

7.2 Grouting:

- 10.2.1 Prior to positioning of structural steel columns/girders/trusses over the concrete pedestals/columns/brackets, all laitance & loose materials shall be removed by wire brushing & chipping. All pockets for anchor bolts shall also be similarly cleaned and any excess water removed. Structural steel members shall be erected thereafter aligned, maintaining the base plates/shoe plates at the levels shown in the drawings with necessary shims/pack plates/wedges.
- 10.2.2 After final alignment of structure, the forms shall be constructed all around and joints made water tight to prevent leakage. Grouting (under the base plates/shoe plates including grouting of sleeves & pockets) shall be done (wherever required) with Non-shrink grout having compressive strength (28 days) not less than 40 N/mm². Non-shrink grout shall be of free flow premix type and of approved quality and make. It shall be mixed with water in proportion as specified by the Manufacturer. The thickness of grout shall be as shown in the drawings but not less than 25 mm nor more than 40 mm in any case.
- 10.2.3 The grout mixture shall be poured continuously (without any interruption till completion) by grouting pumps from one side of the base plate and spread uniformly with flexible steel strips and rammed with rods, till the space is filled solidly and the grout mixture carried to the other side of the base plate.
- 10.2.4 Adequate arrangement shall be made for curing the grout as per the recommendation of Manufacturer.

8. FLOORING

The work shall be carried out as per CPWD specifications, Vol. -1, Sub-head No - 11 and other relevant IS codes. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer in charge.

8.1 Carpet Flooring, Wooden Laminate Flooring, Raised/ False Flooring

The respective items of flooring as given in SOR shall be inclusive of protecting and keeping the flooring clean till handing over. No extra amount shall be payable to the contractor on this account.

Installation of these flooring shall be carried out as described in the respective item of Schedule of Rates (SOR) and as per manufacturer's specifications.

The warrantee of these flooring shall be as per manufacturer's specifications floorings like carpet flooring, wooden laminate flooring, raised/ false flooring

9. ALUMINIUM WORK

- 9.1 The work shall be carried out as per CPWD specifications, Vol. - 2, sub-head-21. However, where CPWD specifications are not available, the work shall be carried out

with prior approval of Engineer in charge.

9.2 Aluminium Composite Panel (ACP) Cladding.

Material shall be procured from the approved manufacturers mentioned in the list of approved makes. Technical parameters of ACP are given below:

SL NO	PROPERTY	VALUE
1	Panel thickness	4 mm
2	Aluminum thickness	0.5 mm each side
3	Weight	Minimum 7.5 Kg/m ²
4	Deflection temperature	> 250°F
5	Ultimate compressive strength	>3000 PSI
6	Tensile strength	>6500 PSI
7	Water absorption	0.02 % by weight
8	Flexural strength	12500~15000 PSI

ACP consisting of 3mm thick Fire Retardant mineral filled Core comprising of around 70% Inorganic compound which is 100% non-combustible mineral and balance 30% is food grade virgin polymer sandwiched between two Aluminium sheets (each 0.5 mm thick). ACP must conform to NFPA 285 and BS 8414 standards along with(EN 13 823, EN ISO 11 925-2 & EN 13501).

FR- ACP must furnish Class 1A certificate of conformity. Fire Retardant(FR) panel must conforms to FST(ISO 5658-2 & ISO 5659-2) properties, as per EN 45545: Hazard level-3 and also conforms to BS 6853 fire testing. The ACP sheet shall be coil coated with Kynar 500 based (70:30 ratio) PVDF / Lumiflon based fluoropolymer resin coating of approved color and shade on face # 1 "specification for coated coil for the exterior building application" issued by ECCA (European Coil Coating Association). The coating shall confirm to AMMA-2605 for superior performing of exterior grade finish and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc.

9.3 Design, Drawings & Installation

- 9.4** The contractor shall design, supply, fabricate, deliver and install and guarantee all the construction necessary to provide complete aluminum composite panel cladding based on water tight system, complete with all necessary anchors, hardware and fittings to provide a total installation, fully in conformity with drawings and specifications. The rate defined in Bill of Quantities shall include for any provision of openable access panels for services wherever required. The cladding shall be so fabricated and erected as to provide for all expansion and contraction of the components. Any temperature change due to climatic conditions shall not cause harmful buckling, opening of joints, undue stress on fastening and anchors, noise of any kind or other defects. The cladding surface taken individually shall not have any irregularities such as oil canning, waves, buckles and other imperfections when viewed at any positions but not less than at an angle of 15 degrees to the true plane of the panel with natural lighting of incident of not less than the same angle. Fasteners including concealed screws, nuts, bolts and other items required for connecting aluminum to aluminum shall be of non-magnetic stainless steel. Rivets used for fastening panel to aluminum sub frame shall be of alloy aluminum large flange head type with stainless steel mandrel. All fixing anchors, brackets and similar attachments used in the erection shall be of aluminum or non-magnetic stainless steel.

- 9.5** Methodology of fixing ACP to aluminium frame work shall be submitted to Engineer-In-Charge for approval.
- 9.6** A warranty for the entire installation carried out and for structural silicon sealant proposed to be used vis-a-vis similar guarantee from the manufacturer of the silicon sealant to fulfill the quality standards shall be offered. The performance guarantee shall cover for replacement of any or all members and components by the agency executing the work at its own cost in case of any deficiency or failure in performance of the ACP Cladding as per the design requirement during the warranty period of 1 year.
- 9.7** For the purpose of payment, the measurement shall be done on Square Meter basis of the executed and finished (in all respects) work. Length and breadth of the superficial area of the finished work shall be measured Centre to Centre of the grooves on the external surface viewed externally correct to a centimeter under the respective items. Areas shall be calculated in a square meter correct to two places of decimal.
- 9.8** Rate shall include the cost of all materials and labour involved in all the operations as specified, to execute the work as per approved drawings/ shop drawings including scaffolding, infrastructure facility, tools and plants etc necessary for execution of the respective item for all height and for all floor levels. Items shall be measurable in sqm. Rate shall include all components and procedure including all fixing as described in this specification.

10. STRUCTURAL GLAZING

10.1 General

The external facade works for the building shall be as per the detailed design of the external facade using glass and metal in combination to provide required aesthetic view of the building, perform desired functional parameters with respect to passive climate control and provide structural stability to the system with respect to various structural loading condition for which the building is designed including thermal and wind load. The structural glazing shall form uninterrupted, water, air and weather tight glazed surface in accordance with the architectural elevation and layout drawings and specifications and the entire system shall be erected as per the same. The glazed surface shall be formed by framing system which shall be of structurally and mechanically designed technology for fabrication and erection with grid sizes as approved. The horizontal members shall span in length between vertical members. The perimeter of the frames shall be structurally integrated to form air and water proof movement joint on all four sides of each panel with pressure equalization chambers formed internally. Design and sealing of such joints shall ensure that there is no penetration of rainwater through these joints under heavy wind pressures.

The fabrication and erection of the system shall comply with all relevant Indian Standards, Code of Practice and technical literature relating to best practice pertaining to structural glazing. The equivalent or higher International Standards may be used. A specialized agency/ sub-contractor with proven track record to execute this job shall be engaged for fabrication and erection of the system. Such an agency should have executed similar jobs for multi-storied buildings.

10.2 Reference Standards:

IS 875 (Part 3)	Code of Practice for Design Loads for Buildings and Structures Part 3 Wind Loads.
AS 1288 - 1994	Glass in Buildings - Selection and Installation.
BS 6262	Glazing for buildings
AS 2208	Safety Glazing Material for use in Buildings.
ASTM C 1036 - 85	For Glass.
AST C 1048 - 87	For Heat Strengthened and Tempered Glass.
AS 2047 - 1996	Aluminium Windows for Buildings / Code of Practice for Installation and Maintenance of Aluminium Windows in Buildings.
AS 1664	SAA Aluminium Structures code.
AS 1866	Aluminium Alloy Sections.
AS 2039	Methods of Testing Anodic Oxidation Coatings on Aluminium and Aluminium Alloys.
AS 1580	Methods of test for paints and related material
AAMA 605.2	Specification for High Performance Organic Coatings
AAMA 501.2	Hose Test
ASTM C 1115	Silicone Rubber Gaskets.

10.3 Structural Glazing System

The Structural Glazing System shall be Semi unitized structural glazing system punched/strip type window units and the same shall be fabricated as per design and approved drawings.

The system shall consist of frame supporting system, the framing system to support vision panels (insulated glass) and spandrel panels with monolithic glass (single or double glazed unit))/ openable window panels/ punched strip windows/ decorative capping to any shape & profile, smoke seal, flashing including gaskets, sealants, necessary accessories, as part of the system on a continuous framing supported between floors as per the specification for external facade system.

The panels shall be supplied and fabricated with the specified glass on the secondary frame at factory, the system shall be erected on extruded main frame & transom fixed on supporting system at site as per approved shop drawings at all floor levels and for all heights.

The split framing semi unitized glazing system in case of punched windows with proposed vision panel with either insulated/ monolithic glass shall have groove width of maximum 16mm both in horizontal and vertical direction.

Tests for the materials involved in the system, including the field test on the erected system at site as per the test criteria shall be as per this specification.

A document on methodology for the materials and assembly (mock up & field test) supported by the copy of relevant codes & Standards shall be as approved by the Engineer-In-Charge prior to testing.

Protection of the system and materials till handing over to the owner, removal of the unwanted materials, broken glass, screws, bolts, nuts, packing materials, debris etc. regularly and keeping the premises neat and clean at all times shall be the responsibility of the contractor.

10.4 System Design

The pre-assembled aluminium semi unitized structurally glazed panel shall be designed with continuous framed panels/ strip window/ punched window system with split mullion to any shape and profile to withstand a minimum design wind pressure (Test pressure shall be 1.5 times of the design wind pressure) conforming to IS 875-Part 3 and lateral forces as per IS 1893 and fixed at horizontally/ vertically/ sloped/ curved position etc. as shown in the approved drawings by using aluminium extrusions, glass, spacer tape, gasket, sealant etc. as specified.

Since the external facade system in terms of design, materials, all fixing details, methodology of execution are proprietary in nature, the onus of the design and performance requirements, shop drawing, execution etc. satisfying the design intent and specification of external façade system including conducting the site survey prior to and after preparation of shop drawing and accommodating the site conditions in the system at appropriate levels etc. shall lie solely the contractor.

The system shall be designed with maximum design wind pressure and lateral forces, moments, stresses etc. Negative/ suction pressures if determined as per IS 875-Part 3 and Lateral forces as per code IS 1893 (Latest Revision) shall make allowances as described in the code for corner effects on the system. System shall be designed with air pressure equalization chamber and concealed continuous gutter vertically and horizontally at all levels as self-drainage barrier to achieve water tightness besides providing EPDM gaskets on the frame and EPDM gasket/ sealant on the external groove as air and water barrier.

The system shall be designed to withstand a design wind pressure specified above with self-bearing modular elements supported between floors in the case of structural glazing and split mullion supported between sill & lintel/ beam in the case of punched windows, EPDM gaskets on the frame and gasket/ sealant on the groove to prevent the system from air & water penetration, double adhesive spacer tape, backer rod, sealant, supporting brackets (resistance to design wind pressure), separator gaskets for bimetallic corrosion, Pressure equalization chamber in the system, built-in continuous internal drainage gutter for collection and facility at lowest floor level to drain out penetrated water, in built adjustability to accommodate thermal expansion, thermal movement and movement due to any other forces etc.

The system shall be designed with gasket/ sealant on the external groove with powder coated aluminium holder all-round the panel to the required width and thickness as per design as dead load support to the glass panel. Non staining sealant between glass & aluminium holder all-round the panel shall be provided. Glazing the panel with child frame shall be done only at factory at the controlled atmosphere to erect the panel on erected extruded aluminium main member and transom with supporting system at site fixed on the RCC/ structural steel surface.

The supporting system shall consist of brackets/ clamps, fastening straps, nuts, bolts, rivets, washers and other fastening materials etc. Extruded sections shall be designed to accommodate Insulated Glass Unit (IGU)/ monolithic (single/double) glass as per the approved shop drawings. Extruded aluminium sections shall be as per grade 6063 T5 or T6 as per BS 1474 coated with electro color anodized 25 microns or super durable powder coating of 60-80 microns conforming to AAMA 2604.

The powder coating on aluminium shall be of approved make.

10.5 Materials

10.6.1 Glass

The infill panels shall be factory made glazed unit of size as per the approved design. The thickness and technical parameters of the glass shall be as specified in Schedule of Rates.

10.6.2 Gaskets

Ethylene Propylene Dine Monomer (EPDM) gaskets as weather strip and barrier shall be provided with adequate fixing details to ensure water and air tightness. Weather strip shall be EPDM gaskets with hardness (5 second) shore A with a typical value not less than 70, ultimate tensile strength of 70 (+/- 10%) kg/ sq.cm and ultimate elongation of 250% (+/- 10%). The gaskets shall be of approved make.

10.6.3 Sealants

Silicon adhesive structural sealant having excellent properties of adhesion, elasticity, long life and of approved make shall be used. The thickness and bite of structural sealant shall be determined to withstand 3 times of the stress caused by the design wind pressure and to ensure the same; the design calculation of sealant manufacturer shall be submitted along with shop drawing. It shall be ensured by the contractor that the bite and thickness of sealant as designed & determined by calculation, verified and tested by manufacture is followed in the shop drawing and the same shall be adopted for the glazing at factory after the approval of shop drawing. The sealant and double adhesive spacer tapes for glazing the panel shall be supplied and fixed as per specification at factory. Spacer tape shall be open cell polyethylene of approved make. Jointing/ sealing of the glazed panel at factory shall be done with non structural (weather) sealant/ non staining sealant of approved make with polyurethane baker rods of approved make. Acetoxy sealant shall not be used for structural glazing application.

10.6.4 System Supports

The supporting system shall be provided and fixed with brackets/ clamps including fastening straps, nuts, bolts, rivets, washers etc as per design requirement and as per approved shop drawings. Brackets/ clamps shall be of hot dip galvanized steel and fastening materials shall be non - magnetic stainless steel 300 series - 316 grade of approved make. Galvanizing thickness shall be in accordance with IS 2629 and 4759. Serrated plates or serrated washer wherever required shall be provided as per the system requirement and as shown in the approved shop drawing.

10.6.5 Top/side Hung openable Window Hardware

Top/ side hung shutters shall be provided with operating hardware and as per details and requirements of location to facilitate ventilation, cleaning/ maintenance of the glass. The hardware shall be provided for the shutter with heavy duty self balancing stainless steel friction stay hinges, corner transmission, detachable restrictor stay assembly and four way locking arrangement, handle with key at the specified location. Handle shall be made out of aluminium die cast with powder coat finish- 65 microns, matching to the transom profile colour. The shutter frame shall be designed to accommodate the hinge, stay arm and multi point lock, EPDM gaskets, fastening materials including all other necessary materials etc. Hinge shall have thermoplastic asymmetric end cap to ensure weather tight sealing at the ends. Heavy duty self balancing stainless steel friction hinges, corner locking point and restrictor stay arm assembly with release key of approved make and four way

locking arrangement and handle with key of approved make shall be considered. Shutter shall have a provision for hold open option and to restrict the opening not more than 200 mm and to keep the vent weather tight while closing the shutter. Gaskets shall be provided to ensure the air and watertight including noise control while the shutter is closed in position and the gasket shall be silicon synthetic rubber of required strength. Master key- 3 sets (floor wise) & Grand master key - 3 sets (building wise) shall be provided for openable parts with necessary code engraved on the keys.

10.6.6 Swing/openable door

System design in total shall have the provision to fix the sliding/ openable door (patch fittings door) integrating with system with necessary structural supports cladded with specified materials and necessary hardware etc all complete to necessitate fixing the doors as a part of the overall system. The openable double/ single leaf door with patch fittings, hold open heavy duty floor spring, stainless steel handle, corner lock at both top and bottom of approved make shall be provided wherever necessary as per design. Stainless strip on the edges shall be provided to protect the laminated exposed face.

10.6.7 Visual Mock up

A full scale visual mock-up with minimum 3 bays and for 2 floor height with combination of vision, spandrel, spandrel on vision area, openable window, ACP cladding (if specified), smoke seal and other special architectural features etc shall be set up to establish the actual system design prior to proceeding with full scale production of the materials involved in the system. A water test shall be conducted on the installed visual mock up system (only water using hose reel to the specified pressure in the technical specification) and the test result of the system shall be submitted for review. Any improvements required on the system based on the test result shall be incorporated.

10.7 Test

10.7.1 Field Test:

Field test at site on the installed glazing system shall be conducted shall be carried out if required as per the direction and discretion of Engineer in charge. Methodology for carrying out the test shall be submitted to Engineer- In- Charge for approval prior to testing. The results shall be recorded and the reports shall be submitted to the Engineer-in-charge for approval. If field test fails, the rectification methodology shall be submitted to correct the defects as per the performance data set out in the specification and as per the methodology described in the relevant code for the approval of Engineer- In- Charge. Defects, if any noticed shall be rectified to the satisfaction of Engineer- In- Charge.

10.7.2 Workmanship

The framing system and fixing arrangements to the RCC framed structure/ structural steel structure shall be with aluminium brackets. All the joints in aluminium framing system and factory glazed panels (also between metal sections and between glass and metal sections and between glass and glass sections) as well as joints between aluminium frame with concrete and/ or masonry meeting surrounds shall be fully sealed and made air, water and weather tight preventing seepage of rain water under heavy wind pressures with provision of adhesive silicon sealant and superior quality approved make EPDM gaskets. The EPDM gasket shall be free from any contract or migration strain and shall be compatible with all substrates. Sealant and finishes,

which are likely to come in contact shall comply with provision of IS code. The EPDM gasket shall be purpose made by approved manufacturer.

Space at each floor level between the external face of the building frame and the internal face of the structural glazed spandrel panel shall be sealed air tight by horizontal barrier to prevent passage of smoke/ fire, conditioned air from one floor level to another. There shall be continuous seal for stopping fire and smoke between the structural glazing and the building face in cavities formed in spandrel panels between the sill wall level at external edge of one floor and RCC/ false ceiling of the lower floor. Fire rating of the stoppers between floors shall be minimum 2 hours.

10.7.3 Design Criteria

The fixing arrangement of factory formed infill glazed grid semi unitized framing system shall be designed by the structural glazing agency to withstand all external forces due to worst condition of wind loads as per IS code applicable for the region of the proposed buildings, earthquake forces occurring in the zone as per the IS code, building frame movement forces due to wind and earth-quake, outside temperature experienced during last 10 years.

The structural bite or contact dimensions of silicon adhesive structural sealant to the glass required, that is the amount of silicon adhesive structural sealant (contact width and thickness) required to support the glass externally and internally in the panel against action of the worst condition of the external forces such as wind earthquake forces, building movement forces, temperature forces including their combinations etc as well as to prevent penetration of rainwater under heavy wind conditions experienced during the last 10 years in the region. It shall be designed in accordance with the requirement of the silicon adhesive structural sealant manufacturer and supplier, mentioning the factor of safety obtainable as per the design. In any case the factor of safety shall not be less than 1.5.

10.7.4 Design Data

Temperature range	:	60° C Ambient, 100° C for Materials.
Wind Load	:	As per design wind load. (Entire system and each component including glass in edge zones on each side of building corners shall be designed for heavier wind suction as required by design code)
Seismic Load	:	As per IS codes
Deflections - Mullions	:	Max. L/240 or 15 mm whichever is less
Deflections - Transoms	:	Max. L/300
Permanent deflection in Mullions	:	Max. L/3000 at 300 Kg/ sq.m wind pressure
Permanent deflection in transoms	:	Nil at 1.5 times dead load
Permanent deflection in cladding frame members	:	Nil at 300 Kg/ sq.m/ wind pressure
Glass panels	:	Thickness as per approved drawings

10.7.5 Performance Criteria of The Structural Glazing

The agency executing the work shall be responsible for the quality and efficiency of the design and application of the structural glazing technology offered. The system

offered shall be structurally sound, aesthetically pleasing and pretested in accredited laboratories certifying performance of the whole system in accordance with the international structural glazing standards. All necessary test certificates etc. proving compliance to all design and performance criteria specified shall be submitted.

The following criteria shall be fulfilled for performance:

- a. **Movement:** The system shall be capable of accommodating all stress and movements that are likely to occur during normal life of 20 years of structural glazing members and not less than 10 years for the structural silicon sealant.
- b. **Composition:** Composition of structural glazing members shall be fully adequate to totally resist any distortion such that no distortion takes place.
- c. **Deflection:** Deflection shall not be more than 1/175 of the span of the members.
- d. **Plumb and alignment:** All the members at each joint shall be in perfect plumb line and alignment. Tolerances for plumb of structural glazing installed shall be within +/- 3mm.

10.7.6 Drawings And Details

Detail drawings of the structural glazing system showing framing system, connections to building RCC frame, main framing grid unitized system comprising of male mullion, female mullion, transoms, all connection details like bracket connection to the building RCC/ structural steel frame, connection between transoms and mullions, etc (also indicating the sizes of the sections proposed) details of the weatherproofing with EPDM gaskets, in fixing details of glass/ glass panels, joint details to withstand severe conditions of winds and rains, insulation of corrosion proof smoke seals of flexible design and construction shall be furnished for the approval of the Engineer-In-Charge. All necessary test certificates, documentation etc proving all the stipulated parameters of the performance shall be produced. Wherever required and asked for, necessary calculations shall be provided by the agency executing the work to establish the design and performance criteria. Company profile of the proposed sub-contractor/ agency proposed to be engaged for executing this job shall be submitted for Engineer-In-Charge's approval.

10.7.7 Measurement & Payment

For the purpose of payment of aluminium sections, IGU/ glass, spandrel, shadow box, operable windows shall be made in respective items of Schedule of rates.

11. WATER PROOFING

The work shall be carried out as per CPWD specifications, Vol. -2, chapter-22. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer in charge.

11.1 Water Proofing (EPDM Membrane)

11.1.1 Material

The water proofing works shall be carried out with 1.52 mm or 1.14mm thick EPDM (Ethylene-Propylene-Diene Terpolymer Membrane) in both horizontal as well as vertical applications and similar other locations as specified in the Schedule of Rates. The Technical parameters of EPDM Membrane are given below:

S.No.	Property of membrane	Minimum Requirement	
		1.52mm	1.14mm

1.	Thickness	1.52mm	1.14mm
2.	Weight	2.10 kg/sqm	1.51 kg/sqm
3.	Tensile strength	≥7N/SQMM	≥7N/SQMM
4.	Minimum service temperature	≤ -45° C	≤-45° C
5.	Maximum service temperature	130° C	130° C
6.	Elongation	≥300%	≥300%
7.	Tear resistance	≥40N	≥40N
8.	UV resistance	PASS	PASS
9.	Water absorption	0.15%	0.15%

11.1.2 Installation/Application

Contractor shall submit the application procedure to Engineer-In-Charge prior to commencement of work at site. Work shall be started only after approval of Application/Installation Procedure by Engineer-In-Charge.

11.2 Guarantee Installation/Application

Guarantee for the entire installation carried out for Water proofing shall be provided. Performance guarantee shall cover for replacement of any or all components by the Contractor at its own cost in case of any deficiency or failure in performance of the water proofing during the Guarantee period of 1 year.

12. HIGH PRESSURE LAMINATES INTERIOR WALLS AND CEILING PANELING SYSTEM

Max Exterior panels are duromer high-pressure laminates (HPL) in accordance with EN 438-6 Type EDF that are produced in lamination presses under great pressure and high temperature. Double-hardened acrylic PUR resins provide extremely effective weather protection that is particularly suitable for long lasting balconies and façade claddings.

12.1 Description / Composition

Max Exterior Panels are high pressure laminates (hpl) according to European norm EN 438. Hpl are sheets consisting of layers of cellulose fibrous material (normally paper) impregnated with thermosetting resins and bonded together by the high pressure process.

The process, defined as the simultaneous application of heat ($\geq 120^{\circ}\text{C}$) and high specific pressure provides flowing and subsequent curing of the thermosetting resins to obtain a homogenous non porous material ($\geq 1,35 \text{ g/cm}^3$) with the required surface finish.

Basically 2/3 of the hpl consists of paper and the remaining 1/3 of cured phenol-formaldehyde resins for the core layers and melamine-formaldehyde resin for the surface layers plus an urethane-acrylic coating in case of HPL Exterior.

The resins belonging to the group of thermosetting resins are irreversibly cross linked by chemical bonds formed during the curing process producing a nonreactive, stable material with characteristics which are totally different from those of its component parts.

HPL are supplied in sheet form in a variety of sizes, thicknesses and surface finishes. retardant F-quality, not containing halogens.

12.2 Standards: Description / Composition Description / Composition

EN 438 – 6 applies to Exterior-grade Compact laminates of thickness 2mm and greater. It specifies requirements for standard and flame-retardant laminates intended for use under outdoor weather conditions such as direct sunlight rain and frost. Two levels of performance are specified; one for moderate exterior conditions, and the other for severe exterior conditions. Laminates complying with this Part of EN 438 are referred to as Exterior-grade Compact laminates, and are characterized by their high tensile strength, high impact resistance, thermal shock resistance, and resistance to weather and corrosion.

They are available in a variety of decorative colors, with high resistance to color change and aging in outdoor applications. When they are self-supporting Exterior-grade Compact laminates are ready for installation, and only require cutting to size, drilling, etc. to suit the application. EN 438-2 specifies the methods of test relevant to this part of EN 438. EN 438 – 7 (Norm Conformity) and CE Certificate.

12.3 Evaluation of conformity Standards:

The compliance of a wall or ceiling panel/siding with the requirements of this standard and with the stated values or classes shall be demonstrated by:

- Initial type testing;
- Factory production control by the manufacturer, including product assessment.

Products may be grouped into families where it is considered that a characteristic (or characteristics) is (are) Common to all products within the family. Compliance with the conditions of this annex is achieved, the certification of conformity (EC Certificate of conformity) is awarded to HPL GmbH, and which entitles HPL GmbH to affix the CE marking.

12.4 Properties:-

Weather resistant to EN ISO 4892-2

- lightfast acc. to EN ISO 4892-3
- Double hardened
- Scratch resistant
- Solvent resistant
- Hail resistant
- Easy to clean
- Impact resistant EN ISO 178
- Suitable for all exterior applications

- Decorative
- Self-supporting
- Bending resistant EN ISO 178
- Frost resistant -80°C to 180°C
- Heat resistant -80°C to 180°C
- Easy to install

Properties	Test method	Unit of measurement	Standard values
Overall Thickness	mm	6
Apparent density	EN ISO 1183-1	g/cm ³	1.35
Flexural Strength	EN ISO 178	Mpa	≥ 80
Modulus of Elasticity	EN ISO 178	Mpa	≥ 9000
Tensile Strength	EN ISO 527-2	Mpa	≥ 60
Co-efficient of Thermal Expansion	DIN 52328	1/K	18x10 ⁻⁶
Fire behavior	EN 13501 -1	MA39 VFA Vienna	B-s2, d0 for 6mm
	ASTM E 84	Class (Flame Spread Index)	10 (Class 1)
	ASTM E 84	Smoke developed Index	95

12.5 Surfaces:-

NT

NH (Hexa)/NT (format 4100 x 1854 mm only)

NG* (Gloss)/NG (Gloss) (format 4100 x 1300 mm only)

12.6 Formats:-

9'2 1/4" x 4' 3" = 39,25 sf (2800 x 1300 mm)

13' 5 1/8" x 4' 3" = 57,44 sf (4100 x 1300 mm)

9'2 1/4" x 6' 5/8" = 55,79 sf (2800 x 1854 mm)

13' 5 1/8" x 6' 5/8" = 81,65 sf (4100 x 1854 mm)

12.7 Core:-

F-Quality, flame-retardant, color brown

12.8 Thicknesses:-

Panels with double-sided decor:

Thicknesses Tolerances (EN 438-6, 5.3)

4,0 - 4,9 mm ± 0,3 mm

5,0 - 7,9 mm ± 0,4 mm

8,0 - 11,9 mm ± 0,5 mm

12,0 - 13,0 mm ± 0,6 mm

12.9 Storage and transport:-

Storage and transport shall be in accordance with the general processing recommendations for hpl. No special precautions need to be taken.

HPL are not classified as a hazardous product. No labelling is required.

Handling and machining of HPL:-

The usual safety requirements of fabrication and machining have to be followed with regard to dust

- dust separation,
- dust extraction,
- fire prevention etc.

Because of the possibility of sharp edges protective gloves should be worn when handling

Laminates. The contact with dust from hpl does not present any special problems, however a small percentage of personnel may be sensitive or even allergic to machining dust in general.

12.10 Environmental and health aspects in use:-

HPL are a cross-linked, duromer material that is chemically inert.

Due to their very low permeability HPL act as a barrier against possible gaseous emissions.

- HPL are approved for direct contact with foodstuff.
- The decorative surfaces of HPL is resistant to all common household solvents and chemicals and have therefore been used for many years in applications where cleanliness and hygiene are demanded.
- The non-porous surface is easy to disinfect with hot water, steam and all types of disinfectants used in hospitals and other commercial applications.

12.11 Maintenance:-

As hpl do not suffer from corrosion and oxidation, no further surface protection and no maintenance apart from cleaning is needed.

12.12 HPL in case of fire:-

HPL are difficult to ignite and have a low spread of flame. The evacuating time in case of fire is therefore prolonged. In case of lack of oxygen, the fire can produce toxic substances due to incomplete combustion as with any other organic material. HPL are also available in F-quality (fire retardant) and do not contain halogenated fire retardants. In case of fires in which hpl are involved, the same firefighting techniques should be employed as with other wood based materials.

12.13 Energy recovery:-

Due to their high calorific value (18 – 20 MJ/kg) hpl are ideal for thermal recycling. When burned completely at 700°C, hpl are transformed to energy, water and carbon dioxide.

Well controlled burning processes are achieved in modern approved industrial incinerators

Ashes of this process can be brought to controlled waste disposal sites. They do not contain heavy metals.

12.14 Waste disposal:-

Hpl can be disposed on controlled waste disposal sites according to current national and/or regional regulations.

12.15 Technical data

Physical-chemical characteristics

Density ca. 1.35 g/cm³

Solubility: - insoluble in water, oil, organic solvents

Calorific value 18-20 MJ/kg

Ignition temperature ca. 400 °C

Thermal decomposition above 250°. Depending upon burning conditions (lack of oxygen, temperature) toxic substances may be emitted; hpl do not melt

Dangerous reactions: - none

Heavy metals: - none

12.16 Storage, transport and handling

Hpl are classified as non-hazardous; there are no special requirements

Use gloves to protect from sharp edges and wear safety glasses when machining. No Special working equipment is necessary, except protections to minimize dust exposure in case of sheet machining

9.2.3 Protection against fire: as with wood and wood based materials

12.17 Machining

Exposure limit: dust below 2 mg/m³

- Extinguishing media all common media applicable

12.18 Health information

HPL are not considered to be dangerous for humans and animals. There is no evidence of toxicological effects and eco-toxicity. The surface is physiologically safe and approved for use in contact with foodstuff acc to EN1186.

13 CURTAINS AND BLINDS

Curtain Cloth: Curtain cloth used in the work shall confirm to the following specifications.

Fabric material : 100% Polyester Filament

Usable Fabric width : 140 cm / 54"

Martindale : not less than 12000 Rubs

Weight : Not less than 300 GSM/Sqm

Fabric density : Non-Transparent Composition

Colour and Print : Fast Colors, Assorted colours Plain and Prints, Beige, Cream, Light Brown, Light colour as decided by Architect/PMC.

Texture : Soft and smooth textured, good drapability & dooby

Approved Brands : KC Fabrics, Homez, D'décor D'decor (Collection/ Quality — Ariel, Aura or similar), Nirmal Furnishings.

If the quotation is for more than one brand, the brand with lowest rate will be considered.
Lining for Curtain Cloth: The lining for the curtain shall be in good quality Muslin Cotton Fabric. The contractors are advised to separately quote basic price of Lining Cloth per running metre of curtain. Enclose Samples of Curtain Cloth with specifications.

13.1 Stitching Specifications:

The stitching of the curtains shall be modern, functional with Eyelet, Platter, etc. for easy sliding and maintenance. The curtains will be stitched as per site requirement with necessary modification in stitching as per site / size requirement. For fabricating Drapery heading, permanent finish buckram shall be double-folded into the heading (3 thicknesses of fabric) and sewn with either clear monofilament or triple-strand polyester thread, colour matched to the fabric used. The bottom- of the buckram shall be sewn to the face of the fabric. Islets (1 ½ inch diameter with a ½ inch rim) or Islets (1 inch diameter with a 3/8 inch rim) shall be uniformly set across the heading, apart with the first and last from each end. Islets headers shall create a uniform, structured look that is both modern and functional presenting a clean look with built in hardware. Equidistant circles should be cut into the top of a draped fabric. Then circular metal islets should be secured with in each one so that a curtain rod can slide right through with ease.

Curtain to be stitched both sides if required / both ends.

Upper side will have nefa with round cut Islets hole with click-clack Stainless Steel with bucrum lining (15-20 cm) to be supplied with curtain at 150-200 mm distance or as appropriate.

Lower end to be stitched after double turn (nefa) to improve the fall of curtain. Lower nefas 150 mm to 200mm.

Bottom hems are to be double-turned to consist of layers of fabric and be blind stitched.

Side hems shall be double-turned 1 ½ inch wide and be blind stitched so that stitches are not visible on the face of the fabric. All vertical seaming shall be sewn with selvage trimmed and over locked.

Eyelet, Platter, and Simple stitching design will be got approved by the bank before starting the work.

13.1 Hanging Arrangement:

The bracket used for hanging the curtains shall be good quality Stainless Steel Brackets, shall be side mounted or front mounted or ceiling mounted as required at site. Curtain Rods shall be stainless steel pipe -1" (25 mm) diameter, 22 Gauge with steel grade 304 or higher, Robust structure, Excellent Seamless finish. The end caps shall be of stainless steel. Where curtain is used as a partition/ long length, sufficient support from ceiling should be provided to avoid sagging. All hardware used in the work shall be of good quality. The samples of the brackets, pipe, end caps, eyelets, etc. and other hardware such as ceiling suspenders, fasteners, etc. is to be got approved before using the same in the work.

13.1 Measurement of the work and basis of payment:

The payment will be made on the basis of detailed measurement of the work done. The contractor will have to submit measurement sheets in tabular form clearly indicating the details of curtains fixed indicating their locations, numbers of curtains fixed along with the details of measurements of end to end finished length of the curtain in metres. For payment, only the end to end length of the finished curtain in running metre will be measured. Cost of

stitching, cost of hanging arrangement, all material and labour is to be included in the per metre cost of finished curtain. The contractors shall be paid all inclusive rates and nothing extra shall be paid on any other count.

14 DISMANTLING AND DEMOLISHING

The work shall be carried out as per CPWD specifications, Vol. -2, chapter-15. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer in charge.

15 FINISHING WORKS

The work shall be carried out as per CPWD specifications, Vol. -2, chapter-13. However, where CPWD specifications are not available, the work shall be carried out with prior approval of Engineer.

16 KITCHEN EQUIPMENTS:

The work shall be carried out as per BOQ item description, all material shall be provided from approved makes.

17 FURNITURE WORKS

17.1 GENERAL

Bidder to note that the sizes of furniture mentioned in the Schedule of Rates are approximate /tentative. Bidder to quote the rates accordingly.

All the materials used for manufacturing of furniture shall be as per approved makes enclosed with the bidding document and contractor to obtain approval of Engineer – In Charge on makes of all materials before proceeding with the manufacturing of furniture.

17.1 MDF BOARD:

MDF board shall be Pre laminate MDF board of Grade-II (Interior grade) conforming to IS: 14857 unless mentioned otherwise elsewhere in the tender. The contractor shall ensure to use MDF board in single piece (without joint) for a particular size/requirement of furniture.

18.1 PRELAMINATED PARTICLE BOARD

Pre laminated particle board shall be of interior grade conforming to IS: 12823. The contractor shall ensure to use prelaminated particle board in single piece (without joint) for a particular size/requirement of furniture.

19.1 LAMINATE:

The Laminate shall be of 0.8-1.0 mm thickness of approved shade, colour and pattern on main/exposed /visible faces and 0.6mm thickness (balancing laminate) on other faces as approved by Engineer in charge.

20.1 POWDER COATING

All CRCA/ Aluminum members shall be powder coated in approved shade using ten tank process to the thickness of 50-60 micron.

21.1 CRCA MS MEMBERS

All CRCA members shall be of Grade D or higher (as per IS:513).

22.1 ALUMINIUM EXTRUSIONS

All Aluminum extrusions shall be of Grade 6063 and Contractor shall submit the Manufacturer Test Certificate for compliance.

23.1 VENEER

The veneer board shall be 4 mm thick of approved shade, colour and pattern conforming to IS: 1328 (type-I) and it shall be factory pressed on the board. The surface shall be finished with melamine polish.

24.1 HARD WOOD

Hard wood, if used shall be chemically treated, anti-termite treated and kiln seasoned as per relevant standards and specifications and shall be free from any defects.

25.1 FABRIC

The fabric panel/tile shall meet the following specifications. The quality, shade and texture of fabric shall be approved by Engineer in charge. The contractor shall submit manufacturer's test certificate towards the compliance to the following specifications.

Sl. No.	Description	Specification for chair fabric
1.	Composition	100% polyester
2.	Weight (gram per liner meter)	Mess - 370 Seat - 257
3.	Abrasion	Mess: 50, 000 cycles Seat: 36, 000 cycles
4.	Flammability	BS EN 1021-1:1994 (Cigarette) BS7176:1955 (Low Hazard)
5.	Fastness to light	4 or more
6.	Fastness to rubbing	4-5

23.1 LEATHERETTE

The Leatherette shall meet the following specifications. The quality, shade and texture of leatherette shall be approved by Engineer in charge. The contractor shall submit manufacturer's test certificate towards the compliance to the following specifications.

Sl. No.	Description	Specifications
1	Composition	PVC + PU coated fabric
2	Weight	650 GSM \pm 5%
3	Abrasion	Above 80000 cycles as per ASTM D 4966:98 (Martindale test, load: 600g)

4	Fastness to light	4-5
5	Fastness to rubbing	Wet: 5, Dry : 3

23.1 EDGE BANDING/ LIPPING

The PVC edge banding shall be done using edge banding machine only. The PVC edge banding shall be of best quality as approved by Engineer in charge and shall be hot pressed to the edges at factory as per the standard methodology. The thickness of the Edge banding shall be 2 mm minimum on all the exposed/ front edges and 0.8 mm on all the unexposed/ rear/ concealed / inner edges as approved by Engineer in charge.

23.2 FLOOR LEVELERS:

The rate quoted by the bidder shall be deemed to be inclusive of the providing and fixing of floor levelers and or leg caps of approved quality, wherever required.

23.3 FLIP TOP BOX:

The flip top box to be provided on table tops shall be of approved quality and design and of suitable size to accommodate the required number of switches and sockets of electrical/ voice/ data etc. The rate quoted by the bidder shall be deemed to be inclusive of the same.

23.4 CASTORS FOR CHAIRS

Castors for shall be of BIFMA standard

23.5 GAS LIFT FOR CHAIRS

Gas lift for chairs shall be minimum BIFMA Standard Class 3

23.6 VARIATION IN DIMENSION:

Variation in dimensions (other than thickness) of the furniture like height of workstation, size of loose furniture, storages, height of table top, storage units etc. up to ± 25 mm. may be acceptable at the time of approval of shop drawings/ layouts, depending upon site conditions, standard product of the manufacturer and decision of PMC. No extra cost/rebate shall be payable to the contractor on this account. However, it shall be contractor's obligation to match the standard dimensions required as per tender drawings, specifications and direction of Engineer in charge.

23.7 "APPROVED EQUIVALENT":

The term "approved equivalent" used anywhere in this tender shall mean the material/ item meeting the specifications as mentioned in the tender for that material/ item and resembling the reference image given in the tender for that item/ material, and having price (latest/ prevalent pricelist of the manufacture) same or more than the approved makes specified in the tender, and sample is submitted by the contractor and approved by Engineer in charge.

23.8 WARRANTIES:

The contractor shall provide **minimum 2 (Two) years manufacturer's warrantee** after the completion of works for all the items, unless mentioned otherwise elsewhere

in the tender.

23.9 NOTE

The agency must quote the rates based on price of the brand/make stipulated in the item of works as described in Schedule of Rates, Specifications, and Drawings. The owner reserves the right to select any of the brands indicated in the “list of approved makes/agencies” in case of delay in delivery of ordered „make of item. The contractor shall not claim anything extra, if the owner / agencies but within the list of approved makes.

(INTERNAL ELECTRICAL WORKS)

SECTION I- LIGHT FIXTURES

1 LIGHT FITTINGS

TECHNICAL PARAMETERS TO BE FOLLOWED BY ALL LIGHT FIXTURES UNLESS SPECIFIED IN:

- 1) Efficacy of the fixture must be minimum 100 lumen/Watt,
- 2) Service Life of the fixture should be minimum 50,000 burning hours,
- 3) The LED used should be of following makes- Nichia/Cree/Philips-Lumiled/Osram/Sharp/Seoul.
- 4) The CRI of the fixture should be minimum 80 for indoor applications and 70 for outdoor applications,
- 5) The THD should be less than 10%.
- 6) The housing of the indoor fixtures should be extruded aluminum/standard alloy housing,
- 7) For outdoor fixtures the housing shall be of high pressure die cast aluminum housing,
- 8) The IP category should be IP20 or higher for indoor applications and IP65 or higher for outdoor applications,
- 9) The Surge Protection to be provided conforming to relevant IS standards/IEC 61643-II Class-2 & EN 61643-II Type-2,
- 10) The manufacturers name/logo should be engraved/embossed on the housing/body or Name/Logo on aluminum plate labels or Name/logo printed on housing/body,
- 11) The warranty period on complete luminaire including driver/control gear, LED, all accessories should be 1 years from the actual date of completion of work.
- 12) The Power factor should be 0.95 or higher,
- 13) The total power consumption of the fitting should not be more than 110% of rated capacity of LED light.

2 Lighting Fixtures & Accessories

The light fixtures and fittings shall be assembled and installed in position complete and ready for service, in accordance with details, drawings, manufacturer's instructions and to the satisfaction of the Engineer-in-Charge.

2.1 Scope:

Scope of work under this section shall include inspection at suppliers/ manufacturer's premises at site upto satisfaction of Engineer-in-Charge or authorized representative. Light fixture can only be supplied after getting approval from Engineer-in Charge. Supplying at site, receiving at site, safe storage, transportation from point of storage to point of erection, erection and commissioning of light fittings, fixtures and accessories including all necessary supports, brackets, down rods and painting etc. as required as per.

2.2 Standards:

The lighting and their associated accessories such as reflectors, housings, drivers etc., shall comply with the latest applicable standards, more specifically the following:

2.3 Light Fittings-General Requirements:

- a) Fittings shall be designed for continuous trouble-free operation under atmospheric conditions without reduction in lamp life or without deterioration of materials and internal wiring. Degree of protection of enclosure shall be IP-65 or above and as per for outdoor fittings.

- b) Fittings shall be so designed as to facilitate easy maintenance including cleaning, replacement of drivers.
- c) Out door type fittings shall be provided with weather proof junction boxes (IP-55) and IP-54 Control gear boxes. All Medium Bay and high bay fixtures shall be supplied with junction box as per site requirement and as per.
- d) Each fitting shall have a terminal block suitable for loop-out connection by 1100 V PVC insulated copper conductor wires upto 4 sq.mm. the internal wiring should be completed by the manufacturer by means of standard copper wire and terminated on the terminal block.
- e) All hardwares used in the fitting shall be suitably plated or anodized and passivated.
- f) Earthing : Each lighting fitting shall be provided with an earthing terminal. All metal or metal enclosed parts of the housing shall be bonded and connected to the earthing terminal so as to ensure satisfactory earthing continuity throughout the fixture.
- g) Painting/Finish: All surfaces of the fittings shall be thoroughly cleaned and degreased and the fittings shall be free from scale, rust, sharp-edges, and burns.
- h) The housing shall be powder coated as required and as per. The surface shall be scratch resistant.
- i) Luminaire shall have dual optics with primary optics distribution of 120 degree or higher and secondary optics as per site/ requirement.
- j) Luminaire shall be designed to operate continuously for minimum 12 hours without deviation in the output parameters.
- j) All the luminaires shall have LM-79, LM-80 and certificates from NABL accredited lab .
- k) Luminaires and driver both shall be BIS certified individually.
- l) Metal used in BODY of lighting fixtures shall be not less than 22 SWG or heavier if so required to comply with specification of standards. Sheet steel reflectors shall have a thickness of not less than 20 SWG. The metal parts of the fixtures shall be completely free from burns and tool marks. Solder shall not be used as mechanical fastening device on any part of the fixture.
- m) Luminaire should be covered with suitable Glass or diffuser with High Transitivity. Outdoor luminaire shall be with clear toughened glass or clear polycarbonate cover.
- n) Heat sink used should be extruded Aluminum or Pressure Die-Cast Aluminum having high conductivity preferably ADC 12 or LM 6.
- o) Lighting fixtures and accessories shall be designed for continuous trouble free operation of minimum of 12 hrs.' under diverse atmospheric conditions without deterioration of materials.
- p) Gasket: An extruded silicon loop gasket shall be provided in the lantern body to ensure a weather proof seal between the cover and the metal housing to exclude the entry of dust, water, insects, etc. Luminaire should conform to degree of protection of IP 65 or above. Felt gasket will not be accepted. This point is applicable only for highbays and outdoor type luminaires.
- Q) The fixture shall be suitable to work under following ambient conditions. Maximum ambient air temperature of 45 deg C (For Indoor products) Maximum ambient air temperature of 35 deg C (For Outdoor products).
- S) For outdoor type luminaire it shall consist of separate optical and control gear compartment. Driver should be easily replaceable in the field conditions. Driver shall be integrated inside the luminaire and should not be kept behind light engine.
- L) The Luminaire should be compliant to the following standards:
 - IEC 60529 - Classification of degree of protections provided by enclosures
 - 16103(Part 1): 2012 Led Modules for General Lighting- Safety Requirements

- 16103(Part 2): 2012 LED MODULES FOR GENERAL LIGHTING PART 2 PERFORMANCE REQUIREMENTS
- IS 16107 (Part 1): 2012 LUMINAIRES PERFORMANCE PART 1 GENERAL REQUIREMENTS
- IS 16107 (Part 2) : 2012 LUMINAIRES PERFORMANCE PART 2 PARTICULAR REQUIREMENTS Section 1 LED Luminaire
- IS 16104: 2012 - d.c. or a.c. Supplied Electronic Control Gear for LED Modules - Performance Requirements
- IS 16105: 2012 Method of Measurement of Lumen Maintenance of Solid - State Light LED Sources
- IS 16106: 2012 - Method of Electrical and Photometric Measurements of Solid-State Lighting (Led) Products
- IES LM-79-08 - Electrical and Photometric Measurements for Solid State Lighting Products
- IES LM-80-08 - Measuring Lumen Maintenance of LED Light Sources
- IEC 60598-1 - General requirement and tests
- IEC 60068-2-38 - Specification for Permitted Humidity Test
- Immunity to interference EN 61547
- Safety EN 60928 / IEC 928 / IS 13021 (Part I)
- Performance EN 60929 / IEC 929 / IS 13021 (Part II)
- Vibrations & Bump tests IEC 68-2-6 FC / IEC 9001
- Quality Standard ISO 9001
- Environmental Standard ISO 14001
- DC Operation EN 60924
- Emergency Lighting Operation VDE 0108

2.4 Electronic driver

Driver shall comply with the following:

- EN 6 1000-3-2 – Harmonics
- EMI – Confirming to CISPR-15
- No Stroboscopic Effect
- Constant Wattage / Light output between 240 V \pm 10%.
- Circuit protection for surge current and inrush current.
- Short circuits, open lamp protection
- RFI < 30 MHz EN 55015
- RFI > 30 MHz EN 55022

- Total Harmonic Distortion (THD) $\leq 10\%$
- Output voltage ripple should be within 3%
- Full Load Efficiency of the driver $\geq 90\%$
- Current waveform should meet EN 61000-3-2

2.5 Installation

Fixtures shall be installed at mounting heights as detailed on the Drawings or as instructed on site by the Engineer.

Pendent fixtures within the same room or area, shall be installed plumb and at a uniform height from the finished floor. Adjustment of height shall be made during installation. Flush mounted recessed fixtures, shall be installed so as to completely eliminate leakage of light within the fixture and between the fixture and adjacent finish.

Fixtures mounted outlet boxes shall be rigidly secured to a fixture stud in the outlet box. Hickeys or extension pieces shall be installed where required to facilitate proper installation.

Fixtures located on the exterior of the building shall be installed with non-ferrous metal screws finished to match the fixtures.

All light fittings shall be supported with appropriate fixing accessories such as clips, supporting brackets, suspension sets, nuts, washers, screws etc. for their proper installation on different types of ceiling panels. Suspension sets shall be of adjustable type suitable to carry the weight of the lighting fittings unless otherwise stated or indicated on drawings.

2.6 Testing of installations:

After all lighting fixtures are installed and are connected their respective switches, test all fixtures to ensure operation on their correct switch in the presence of the Engineer. All un-operating fixtures or ones connected to the wrong or inconveniently located switch shall be correctly connected as directed by the Engineer.

SECTION – II: SERVER, DATA & VOICE NETWORKING SYSTEM

1. SCOPE

- 1.1 This document defines the cabling system and subsystem components to include cable, termination hardware, supporting hardware, and miscellany required to furnish, and to install a complete cabling infrastructure supporting voice and video. The intent of this section is to provide pertinent information to allow the vendor to bid the labor, supervision, tooling, materials, and miscellaneous mounting hardware and consumables to install a complete system. However, it is the responsibility of the vendor to propose any, and, all items required for a complete system whether or not it is identified in the specification, drawings and bill of materials attached to this specification.

2. APPLICABLE DOCUMENTS

- 2.1 The cabling system described in this specification is derived in part from the recommendations made in industry standard documents. The list of documents below (or the latest revisions) has bearing on the desired cabling infrastructure are incorporated into this specification by reference:
- a) This Technical Specification and Associated Drawings
 - b) ANSI/TIA/EIA 568-B Commercial Building Telecommunications Cabling Standard – March 2001
 - c) ANSI/EIA/TIA-569-A Commercial Building Standard for Telecommunications Pathways and Spaces - February, 1998
 - d) ANSI/EIA/TIA-606 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings - February, 1993
 - e) ANSI/TIA/EIA-607 Commercial Building Grounding and Bonding Requirements for Telecommunications - August, 1994

3. TELEPHONE NETWORK

3.1 Telephone Tag Block:

3.1.1 General

- a) The telephone tag blocks shall be suitable for the multi core telephone cables and shall have two terminal blocks, cross connect type. All incoming and outgoing cables shall be terminated on separate terminal blocks and termination shall be silver soldered. The cross-connecting jumpers shall be insulated wires of same diameter and screw connected.
- b) The tag blocks shall be mounted inside fabricated sheet steel boxes with removable hinged covers and shall be fully accessible. The enclosure shall be painted with 2 coats of red oxide and stove enameled.
- c) CAT-5e (enhanced) unshielded twisted pair cable in MS/PVC conduit shall be used to have modern structured cabling network for telephone system, to have latest facilities for Internet and also data cabling. All the telephone Jack must terminate on RJ-11 jacks and installed onto a dual Jack faceplate. Telephone RJ-11 Jacks must be terminated with a Connector/Jack.

4. EQUIPMENT ROOM

The equipment room shall be defined as an area within the building where telecommunications systems shall be housed along with the mechanical termination of one or more portions of the telecommunications wiring system. Equipment room shall be considered to be distinct from telecommunications closets because of the nature or complexity of the equipment they contain. Any or all of the functions of a telecommunications closet shall be alternatively provided by an equipment room.

1. CABLE SPECIFICATIONS

5.1 UTP CABLING SYSTEM

5.1.1 Unshielded twisted pair cabling system, TIA / EIA 568-B.1 addendum Category 5e Cabling system

- | | |
|--|---|
| a. Networks Supported | 10 / 100 Ethernet, 155 Mbps ATM, 1000 Mbps IEEE 802.3ab Ethernet, and proposed Cat 6 Gigabit Ethernet |
| b. Warranty | 25-year systems warranty; Warranty to cover Bandwidth of the specified and installed cabling system, and the installation costs |
| c. Performance characteristics to be provided along with bid | Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR for 4-conductor channel |

5.1.2 Unshielded Twisted Pair, Category 6, TIA / EIA 568-B.2

- | | |
|--|---|
| a. Material: | 23 AWG solid bare copper or better |
| b. Conductors | Polyethylene |
| c. Insulation | Flame Retardant PVC |
| d. Jacket | Cross-member fluted Spline. |
| e. Pair Separator | UL Listed |
| f. Approvals | ETL verified to TIA / EIA Cat 6 |
| g. Operating temperature | -20 Deg. C to +60 Deg. C
Minimum 600 MHz |
| h. Frequency tested up to | Box of 305 meters |
| i. Packing | 45ns MAX. |
| j. Delay Skew | 100 Ohms + / - 15 ohms, 1 to 600 MHz. |
| k. Impedance | Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR |
| l. Performance characteristics to be provided along with bid | |

5.2 Category 5 Riser Cable

This cable shall consist of solid copper conductors insulated with expanded polyethylene covered by a PVC sheet.

The core shall be covered with a layer of plastic tape and overlaid with a corrugated PVC plastic. it shall be suitable to be used without conduit. The cable shall meet. EIA/TIA -568, C S A T -529, IEEE 802.3 & 10 B A S E -T. The pair sizes shall be as per the schedule of quantities. The cable shall meet the following specifications.

- | | | |
|----|-----------------------------------|----------------------|
| a. | Maximum DC Resistance | 26.5 ohm per 100 ft. |
| b. | Maximum D C Unbalanced Resistance | 17% |
| c. | Mutual Capacitance at 1 Khz | 16 nF per 1000 ft. |

6. TESTING

- 6.1 All the ports post termination should be tested to avoid any future data packet loss using Penta scanning.
- a) All the test result with complete documentation should be taken from cabling vendor.
 - b) Testing of network site should be as per EIA/TIA standard for 20/25 years network guarantee and certification on passive components.
 - c) Testing & labeling:
 - All fiber-optic cables and connectors shall be tested.
 - All voice cables and connectors shall be tested for continuity and pin-out as well as live circuit operation.
 - All data cables, connectors and patch cables shall be tested to EIA /TIA *568 specification using a Penta Scanner.
 - All Cables, racks, enclosures, patch panels, blocks and faceplate shall be professionally and clearly labeled using an electronic labeling device in accordance with planned network labeling scheme.

7. WARRANTY

Owner seeks warranty for the installed cable plant from the OEM equipment supplier. Bidder shall ensure that the OEM norms for supply, installation, testing and documentation as specified by the OEM supplier shall be adhered to, provided those are in line with TIA / EIA standards and Owner requirement specifications. The warranty shall be provided by the OEM vendor to Owner and shall be administered in India. The duration of the warranty shall be for a minimum of 5 years and shall cover the system performance, application assurance and the costs of the supply of components and installation.

SECTION –II (a): CABLING FOR DATA SYSTEM

1. SCOPE

This document defines the cabling system and subsystem components to include cable, termination hardware, supporting hardware, and miscellany required to furnish, and to install a complete cabling infrastructure supporting data and video. The intent of this section is to provide pertinent information to allow the vendor to bid the labor, supervision, tooling, materials, and miscellaneous mounting hardware and consumables to install a complete system. However, it is the responsibility of the vendor to propose any, and, all items required for a complete system whether or not it is identified in the specification, drawings and bill of materials attached to this specification.

2. APPLICABLE DOCUMENTS

2.1 The cabling system described in this specification is derived in part from the recommendations made in industry standard documents. The list of documents below (or the latest revisions) has bearing on the desired cabling infrastructure are incorporated into this specification by reference:

- a) This Technical Specification and Associated Drawings
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- d) ANSI/EIA/TIA-606 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings - February, 1993
- e) ANSI/TIA/EIA-607 Commercial Building Grounding and Bonding Requirements for Telecommunications - August, 1994

3. CABLING SYSTEM AND COMPONENT SPECIFICATIONS

3.1 UTP Cabling System

3.2 Unshielded twisted pair cabling system, TIA / EIA 568-B.1 addendum Category 6 Cabling system

Networks Supported	1000 Ethernet, 155 Mbps ATM, 1000 Mbps IEEE 802.3ab Ethernet, and proposed Cat 6 Gigabit Ethernet
Warranty	25-year systems warranty; Warranty to cover Bandwidth of the specified and installed cabling system, and the installation costs
Performance characteristics to be provided along with bid	Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR for 4-connector channel

3.3 Unshielded Twisted Pair, Category 6, TIA / EIA 568-B.2

Material:	
Conductors	23 AWG solid bare copper or better
Insulation	Polyethylene
Jacket	Flame Retardant PVC
Pair Separator	Cross-member fluted Spline.
Approvals	UL Listed
	ETL verified to TIA / EIA Cat 6
Operating temperature	-20 Deg. C to +60 Deg. C
Frequency tested up to	Minimum 600 MHz
Packing	Box of 305 meters
Delay Skew	45ns MAX.
Impedance	100 Ohms + / - 15 ohms, 1 to 600 MHz.
Performance characteristics to be provided along with bid	Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR

3.4 UTP Jacks Type

PCB based, Unshielded Twisted Pair, Category 6, TIA / EIA 568-B.2

Durability	
Modular Jack	750 mating cycles
Wire terminal	200 termination cycles
Accessories	Strain relief and bend-limiting boot for cable
	Integrated hinged dust cover
Materials	
Housing	Polyphenylene oxide, 94V-0 rated
Wiring blocks	Polycarbonate, 94V-0 rated
Jack contacts	Phosphorous bronze, plated with 1.27micro-meter thick gold
Approvals	UL listed
Performance Characteristics to be provided with bid	Attenuation, NEXT, PS NEXT, FEXT and Return Loss

3.5 UTP Jack Panels Type

24-port, PCB based, Unshielded Twisted Pair, Category 6, TIA / EIA 568-B.2

Ports	24
Port arrangement	Modules of 6-ports each, arranged 1port x 6.
Category	Category 6
Circuit Identification Scheme	Icons on each of 24-ports
Port Identification	9mm or 12mm Labels on each of 24-ports (to be included in supply)
Height	1 U (1.75 inches)
Durability	
Modular Jack	750 mating cycles
Wire terminal (110 block)	200 termination cycles
Accessories	Strain relief and bend limiting boot for cable
Materials	
Housing	Polyphenylene oxide, 94V-0 rated
Wiring blocks	Polycarbonate, 94V-0 rated
Jack contacts	Phosphorous bronze, plated with 1.27micro-meter thick gold

Panel	Black, powder coated steel
Approvals	UL listed
Termination Pattern	TIA / EIA 568 A and B;
Performance Characteristics to be provided along with bid	Attenuation, NEXT, PS NEXT, FEXT and Return Loss

3.6 Faceplates

Type	1-port, White surface box
Material	ABS / UL 94 V-0
No. of ports	One

3.7 Workstation / Equipment Cords

Type	Unshielded Twisted Pair, Category 6, TIA / EIA 568-B.2
Conductor	24 AWG 7 / 32, stranded copper
Length	7-feet
Plug Protection	Matching colored snag-less, elastomer polyolefin boot
Warranty	25-year component warranty
Category	Category 5
Plug	
Housing	Clear polycarbonate
Terminals	Phosphor Bronze, 50 micron gold plating over selected area and gold flash over remainder, over 100 micron nickel under plate
Load bar	PBT polyester
Jacket	PVC
Insulation	Flame Retardant Polyethylene

Wireless Signal: The color of this parameter's progress bar provides a visual interpretation of signal strength. Values are given below

Excellent (green)	: -57 to -45 dBms (75 to 100 %)
Good (green)	: -75 to -58 dBms (40 to 74 %)
Fair (Yellow)	: -85 to -76 dBms (20 to 39 %)
Poor (Red)	: -95 to -86 dBms (0 to 19 %)

Note: Termination of active & Passive components shall be the part of system Integrator

4. TESTING

- 4.1 All the ports post termination should be tested to avoid any future data packet loss using Penta scanning.
- 4.2 All the test result with complete documentation should be taken from cabling vendor.
- 4.3 Testing of network site should be as per EIA/TIA standard for 20/25 years network guarantee and certification on passive components.
- 4.3 Testing & labeling:
 - a) All fiber-optic cables and connectors shall be tested.
 - b) All voice cables and connectors shall be tested for continuity and pin-out as well as live circuit operation.
 - c) All data cables, connectors and patch cables shall be tested to EIA /TIA *568 specification using a Penta Scanner.
 - d) All Cables, racks, enclosures, patch panels, blocks and faceplate shall be professionally and clearly labeled using an electronic labeling device in accordance with planned network labeling scheme.

5. WARRANTY

Owner seeks warranty for the installed cable plant from the OEM equipment supplier. Bidder shall ensure that the OEM norms for supply, installation, testing and documentation as specified by the OEM supplier shall be adhered to, provided those are in line with TIA / EIA standards and Owner requirement specifications. The warranty shall be provided by the OEM vendor to Owner and shall be administered in India. The duration of the warranty shall be for a minimum of 5 years and shall cover the system performance, application assurance and the costs of the supply of components and installation.

SECTION –III : EPABX TECHNICAL REQUIREMENTS AND STANDARDS:

The specification defines the requirements for a continuous duty, highly reliable, latest and state of art technology EPABX Systems for effective intercommunication.

All equipment of system shall comply in all respects with the requirements of the latest edition of the relevant codes and Indian Standard. The technical specifications for the system to be executed are enclosed. Items which are not covered under the technical specifications and are required for completeness of the system shall be executed as per latest IS/ IE rules and Indian telecom department requirements

The EPABX system shall be TEC/DOT approved and conform to the latest issue of relevant applicable international standards/IEC standard /Indian standards for design, manufacturing, safety, inspection and installation.

IP based Communication Server should be a full-featured IP based communications system providing a rich feature set of the system, with pure Voice over IP (VoIP) communications, across corporate Local and Wide Area Networks (LAN and WAN).
The system should be full featured, modular and expandable for port capacity.

Should be ROHS complied as green product with power saving
System should support traditional circuit switching as well as VoIP functionalities.

Support feature transparency over networked PBXs.

Universal Port Architecture that has the flexibility to accommodate station terminal equipment, trunks and adjunct processors in any available slot in the system.

Multiple networking options supporting PSTN (analog and digital) and TIE trunk (analog, digital and IP) without additional external equipment.

Universal IP port gatekeeper control signaling for both Station and Trunk.

Remote sites should be survivable and fully operational even if the central site fails, or the WAN connectivity between the remote site and central site fails.

Support wide range of terminals including analog phone, digital phone, IP phone (H.323 & SIP), soft phone, and IP DECT phone.

The proposed system shall facilitate user-friendly computer telephony integration (CTI).

Basic telephony functions should be provided in one system without additional servers such as publisher, TFTP server and other adjunct servers.

System should supports built in ACD function and no external server should be needed for ACD functionality.

Minimum communication must be provided after discharge backup battery (Power failure transfer).

System should be offering features with enhanced user interface. On the WAN side, the system must provide peer-to-peer connections over IP networks with the voice compression.

Besides, the system must provide legacy line / trunk interfaces to support the existing Time Division Multiplexing (TDM) based infrastructure, such as analog telephones, digital telephones, analog networks and digital networks.

Both peer-to-peer connections and TDM-based connections should be controlled by the CPU board. The CPU should incorporate a built-in Device Registration Server (DRS) and a single interface point of IP connection to IP telephone,

System Highlights:

Pure IP System capable TDM configuration

The PBX should support both pure IP switching (peer-to-peer connections) and Time Division Multiplex Switching. The pure IP switching is provided for communications between IP

On the other hand, the TDM switching is provided for communications between legacy stations/trunks. Connection between IP network and legacy network is made via VoIP board on the CPU board, which converts packet-based voice data to TDM-based voice data, and vice versa.

Powerful CPU Board with Built-in Functionalities

CPU board of the system should be like a heart of pure IP connections and TDM-based connections. The CPU board must employ a 32 bits microprocessor. With this processing power and DSP technology, it must integrate the following functions.

DTMF receivers

Caller ID receivers

Caller ID senders

MF senders / receivers

In-Mail

VoIPDB

In addition, by means of today's advanced LSI technology, size of the CPU board is minimized, and VoIP which has VoIP NIC port (Gigabit Ethernet) must be mountable without additional slots in the KSU.

Maximum System Capacities

The compact 19" KSU that has six universal slots and one power supply unit. Additional KSU, referred to as Expansion KSU, can be installed to increase the capacity of the system to meet the customer's business needs. The system can be expanded to maximum port capacity of 512 digital terminals.

System Maximum Capacity:

Total of Analog, Digital, IP Extensions : 512

Max Analog ext 512

Max Digital ext 512

Max IP ext 512

Max. Analog Trunk : 180

Max. BRI : 180

Max. PRI : 180 B-Channel

Max. IP Trunk (SIP) : 128

Max. VoIP Channels : 128

Conference Circuits : Maximum 32 party per Conference

IN skin Voice Mail/ AA (Auto attendant) Channel on CPU : 16 port Channel with out PC (Embedded card based) with 500 mail boxes and 30 Hours storage capacity.

Networking with 15 locations with full features enabled.

2. Intelligent Networking

Supports peer-to-peer IP feature transparency, point-to-multipoint IP feature transparency or TDM-based feature transparency.

Provides one system look for multi-site implementation with centralized unified systems management.

Support feature transparency with remote office equipped with other IP PBX models from the same vendor.

3. System Management

The PBX system can be managed under one single management interface.

Functionality distributed with call control intelligence residing in site for a multi-sites PBX environment.

Support remote maintenance by serial interface and/or TCP/IP interface.

4. System Features

The system should support the following features:

Malicious Call Trace

Call waiting services

Hot line

Music on hold including the music sources

Operator (console button) and station (dial access) to radio paging including tone-to-rotary conversion as necessary

Trunk answer supervision by battery reversal or metering pulse

Intercom blocking

Restriction and unrestricting of telephones

No Attendant Service

QSIG Networking conforms Trunk to Trunk Connections

Support different voice encoding technique include G.729a, G.711, G.723.1

Peer to peer support

Backward compatibility for both hardware and software must be supported. Clear migration

strategy must be illustrated.

H.323 and SIP standard phones.

System Interfaces

Availability of voice messaging system interface.

Availability of call accounting system interface.

Availability of interface to other IP applications.

Service Features

Support authorization code (at least 10 digits).

Support accounts codes (at least 10 digits).

Support forced accounts codes (at least 10 digits).

The user is allowed to key in at least 24 dialed digits to cater for called number as well as account codes.

Call Forwarding set by Direct Inward System Access (DISA).

Call Routing & Class of Service

Support Least Cost Routing

Routing must allow user to route dialed 0, 00, 01 or 011 calls over different routes.

Support fifteen classes of service and ring-down to operator

Traffic Management

Traffic statistics recording should be available.

Station hunting technique

Circular

Pilot

Secretarial

Uniform Call Distribution

6. Terminal Details

Legacy Terminals (Analogue & Digital), IP Terminals, IP DECT, IP Soft Phone, GSM / SIP Mobile, Standard IP Terminals.XML Applications on IP Terminals. Messaging Waiting & CLIP on Analogue. Wideband Codecs.

Digital Terminal Set Physical Features

Must have option to use wired Handset or wireless Handset with Dial pad and at least 8 BLF/LED keys via Bluetooth support.

Same Digital/IP Terminal must be upgradeable for blue tooth handset connectivity by just replacing wired handset to Blue tooth Handset

Minimum 24 freely programmable/fixed keys with LED's expandable to 32 key without replacing the original Base terminal by just replacing key Module.

Alphanumeric LCD tilt able display with 3 lines (24 characters per line); additional

Backlighting that remains illuminated for approx. 5 s.

The faceplate of the instrument should be changeable with different color option as and when required in future.

Multiple line appearances with LED indication

Integrated Full-Duplex speakerphone with adjustable volume control

Speakerphone should allow on-hook dialing

Availability of various phone models supporting 8 to 32 programmable line/feature keys with capability to store up to 24 digits

Availability of fixed feature keys

Faceplate overlay must be a snap-on clear plastic material

Easily accessible data port for modem connection or fax machine use

Soft tone electronic ringer with adjustable High-Low settings

Line powered (No external power or user installed batteries)

Availability of HOLD button

Availability of Digital Multi-Line Station

For wall mounted version, comes with snap-in cable connectors

Digital Terminal Basic Call Features

Extension to extension dialing

Call waiting

Call hold

Distinctive ringing

Eight party conference

Call forward on busy

Call forward on no answer

Call forward all calls

Internal and external queuing

Automatic Recall

Automatic Line Preferences

Remote Call Forwarding (External Call Forwarding)

Do Not Disturb

Busy Override

Internal Paging Through Telephone

Appearance/Bridged Station Lines

Manual Signaling (Boss/Secretary Button/Buzzer)

Boss/Secretary Intercom

Trunk Queuing with Callback

Station Queuing with Callback

Multiple Call Forwarding options

“Off Premise” call forwarding

Support display/block caller ID for both incoming and outgoing call

Fully Featured IP Telephony Support

IP Ports (Stations-Trunks)

Distributed media gateways (analog/digital station, ISDN PRI trunk interface)

Failover resiliency

IP Terminals

IP Terminal with Color LCD Touch Screen with COLOUR DISPLAY

AND xml supports With BACKLIT LCD AND KEY PAD

Must have option to use wired Handset or wireless Handset via Bluetooth support.

Same terminal must be upgradeable for blue tooth handset connectivity by just replacing wired handset to Blue tooth Handset

Minimum 24 freely programmable/fixed keys with LED's expandable to 32 key without replacing the original Base terminal by just replacing key Module.

Alphanumeric LCD tilt able display with 3 lines (24 characters per line); additional

Backlighting that remains illuminated for approx. 5 s.

The faceplate of the instrument should be changeable with different color option as and when required in future.

Multiple line appearances with LED indication

Integrated Full-Duplex speakerphone with adjustable volume control

Simple upgrade from digital phone to IP phone

Interface to native IP Telephones (H.323 & SIP)

Availability of PC Client soft phone

Availability of wireless IP DECT Handset

Full-duplex speakerphone

Easy programming of line/Feature Keys And Fixed Feature Keys

Support all the features of the Digital terminal

IP phone should equip with a build in mini switch for connectivity to a desktop/notebook computer

A user should be able to plug in their IP phone anywhere in the organization and automatically receive calls without administrative intervention.

The IP phone should be powered via external power adapter, power patch panel or in line power of the switch

Supports failover resiliency for IP stations across discrete systems, i.e., an IP telephone can be configured behind more than one PBX

Intelligent Attendant Console

Availability of PC based and desktop operator console

Attendant administration with high operability

Call ID of incoming trunk and station (Alpha Numeric)

Trunk group busy indicators

Support trunk group access

Busy verification of station lines

Privacy, line lock out

Attendant controlled conference

Transfer and extension of calls, both internal and external

Direct access to paging including the generating of any required tones or pulses

Release loop control with at least six loops per operator console

Camp-on

Intrusion support

Class of service support

Indication of the number of calls waiting

The LCD changes with different call states and instructs the user which Multifunction keys are available for each state.

Support Multi-function Keys to reduce the number of different buttons and greatly simplify operation. Keys such as Busy Verify, DND Override, etc. only appear when needed.

Features of Communication Server:

Account Code – Forced/Verified/Unverified

Account Code Entry

Alarm

Alarm Reports

Alphanumeric Display

Analog Communications Interface (ACI)

Ancillary Device Connection

Answer Hold

Answer Key

Attendant Call Queuing

Automatic Call Distribution (ACD)

Automatic Release

Automatic Route Selection

Background Music

Barge-In

Battery Backup – System Memory

Battery Backup – System Power

Call Duration Timer

Call Forwarding – Park and Page

Call Forwarding

Call Forwarding with Follow Me

Call Forwarding, Off-Premise

Call Forwarding/Do Not Disturb Override

Call Monitoring

Call Redirect

Call Waiting/Camp-On

Callback

Caller ID Call Return

Caller ID

Central Office Calls, Answering

Central Office Calls, Placing

Class of Service

Clock/Calendar Display

Code Restriction

Code Restriction Override

Code Restriction, Dial Block

Conference

Conference, Remote

Conference, Voice Call/Privacy Release

Continued Dialing

Data Line Security

Delayed Ringing

Department Calling

Department Step Calling

Dial Pad Confirmation Tone

Dial Tone Detection

Dialing Number Preview

Digital Trunk Clocking

Direct Inward Dialing (DID)

Direct Inward Line (DIL)

Direct Inward System Access (DISA)

Direct Station Selection (DSS) Console

Directed Call Pickup

Directory Dialing

Distinctive Ringing, Tones and Flash Patterns

Do Not Disturb

Door Box

Drop Key

Facsimile CO Branch Connection

Flash

Flexible System Numbering

Flexible Timeouts

Forced Trunk Disconnect

Group Call Pickup

Group Listen

Handset Mute

Handsfree and Monitor

Handsfree Answerback/Forced Intercom Ringing

Headset Operation

Hold

Hot Key-Pad

Hotline

Howler Tone Service

Intercom

ISDN Compatibility

Last Number Redial

LCR-Least Cost Routing

Line Preference

Long Conversation Cutoff

Loop Keys

Maintenance

Meet Me Conference

Meet Me Paging

Meet Me Paging Transfer

Memo Dial

Message Waiting

Microphone Cutoff

Mobile Extension

Music on Hold

Name Storing

Night Service

Off-Hook Signaling

One-Touch Calling

Operator

(OPX) Off-Premise Extension

Paging, External

Paging, Internal

Park

Power Failure Transfer

Prime Line Selection

Private Line

Programmable Function Keys

Pulse to Tone Conversion

Redial Function

Repeat Redial

Reverse Voice Over

Ring Groups

Ringdown Extension (Hotline), Internal/External

Room Monitor

Save Number Dialed

Secondary Incoming Extension

Secretary Call (Buzzer)

Secretary Call Pickup

Selectable Display Messaging

Selectable Ring Tones

Serial Call

Single Line Telephones

SLT Adapter

Softkeys

Speed Dial – System/Group/Station

Station Hunt

Station Message Detail Recording

Station Name Assignment – User Programmable

Station Relocation

Synchronous Ringing

Tandem Ringing

Tandem Trunking (Unsupervised Conference)

Tone Override

Traffic Reports

Transfer

Trunk Group Routing

Trunk Groups

Trunk Queuing/Camp-On

Uniform Call Distribution (UCD)

Uniform Numbering Network

UNIVERGE Multimedia Conference Bridge

Universal Slots

User Programming Ability

Virtual Extensions

Voice Mail Integration (Analog)

Voice Mail Message Indication on Line Keys

Voice Over

Voice Response System (VRS)

Volume Controls

Warning Tone for Long Conversation

SECTION-IV: CLOSE CIRCUIT TELEVISION SYSTEM (CCTV)

1. SYSTEM REQUIREMENT

These technical specifications cover the requirements for Designing, Engineering, Manufacturing, supplying, Delivering, Installing, Testing and Commissioning of CCTV system.

2. SYSTEM OBJECTIVE

- 2.1.1 To enable the important areas of the premises to be monitored remotely
- 2.1.2 To enable critical areas to be scanned from pre-selected position and generate alarms if any changes captured.
- 2.1.3 To enable automatic recording by Digital Multiplex Recorder on hard disk and to play back the recorded events on selected monitors & back-ups of the events on CD.

2.2 Standards:

- 2.2.1 All the CCTV products will be supplied and integrated end to end and shall be UL, EN & FCC Listed.
- 2.2.2 All the CCTV products shall be of the same manufacturer.

2.3 Closed Circuit Television (CCTV) Cameras:

- 2.3.1 The Closed-Circuit Television System (CCTV system) shall provide an on-line display of video images on monitor. Cameras with suitable lenses shall be used to view specific areas of interest.

The primary objective of implementing a CCTV system is to ensure effective surveillance of an area and also create a record for post event analysis.

- 2.3.2 All Cameras shall be of the specified (fixed or varofocal) type and shall be of 1/3" / 1/4" CCD type colour using solid-state circuitry.

The Cameras shall provide a minimum of 580 TV lines resolution.

The complete unit shall be housed in a single mountable container with a base unit, both preferably made from injection moulded plastic.

It shall be possible to adjust the camera head inside the housing so that it can be wall or ceiling mounted.

- 2.3.3 The camera shall deliver clear, high-resolution picture without geometric distortion.
- 2.3.4 The Camera shall comply with the enclosed specifications

3. CAMERA

Dome Camera

4MP Indoor IP Dome camera with 1/3-inch CMOS, Sensor pixels supports 2592x1520, with built in IR upto 30m effective distance, with Sensitivity-0.01 lx (color) , Dynamic range > 120dB, day/night, Automatic Electronic Shutter, Video compression H.265; M-JPEG, White balance, BLC, H.265 dual-streaming, Motion/tamper/audio detection, Auto zoom Varifocal Lens 3 to 12 mm motorized lens, Built-in audio in/out capability, Two-way, full duplex Audio support, Audio compression G.711U, Memory card slot (support minimum 128GB), 3-axis adjustment (pan/tilt/ rotation), IP 66,IK 10, ONVIF Profile, S & G,CE,UL,FCC Certified.

16 Channel NVR

16 channel NVR with 1 sata connectivity, support video compression H.264,H.265 & H.265+ ,Support up to 4k resolution ,Support Recording resolution 5MP/4 MP/3MP/1080p,9 Ch. live output , Support Audio input , Support upto 25 FPS @ 5 MP & all other resolution also, HDD Support 6 TB each port ,both MPEG 4 and H.264/H.265 recording formats. PTZ support, Tour support, manual/motion smart recording options, Buzzer ,alarm input/output, Auto maintenance features ,2 Usb 2.0 ports, Remote monitoring software ,Motion detection , power consumption less than 30 w on full load ,Support all ONVIF cameras . HDMI ,NVR with IP connectivity, CMS/Web Software with all necessary software & along with one no. (24/7) working video surveillance grade hard disk 4 TB . ONVIF Profile, S & G, CE,UL,FCC Certified.

SECTION-V: MEDIUM VOLTAGE 1.1 KV GRADE XLPE INSULATED PVC SHEATHED CABLES

1. SCOPE

The MV cables shall be supplied, inspected, laid, tested and commissioned in accordance with drawings, Specifications, relevant Standard Specifications and cable manufacturer's instruction.

2. STANDARDS AND CODES

- 2.1 Updated and current Indian Standard Specifications and Codes of Practice as stipulated below shall apply to the equipments and the work covered in this section. In addition the relevant clauses of the Indian Electricity Act 1910, Indian Electricity Rules 1956, National Building Code 1994, National Electric Code 1985, Code of Practice for Fire Safety of Building (general) : General Principal and Fire Grading – IS 1641 as amended upto date shall also apply. Wherever appropriate Indian Standards are not available, relevant British and/or IEC Standards shall be applicable.

2.2	PVC insulated heavy duty cables	IS 1554 - 1988
	Cross link polyethylene insulated PVC (sheathed XLPE cables)	IS 7098 - 1985
	Code of practice for installation and maintenance of power cables	IS 1255 - 1983
	Conductors for insulated electrical cables	IS 8130 - 1984
	Drums for electrical cable	IS 10418- 1982
	Methods of test for cables	IS 10810- 1988
	Recommended current rating	IS 3961 - 1987
	Recommended short circuit rating of high voltage PVC cables	IS 5891 - 1970

3. MATERIAL

- 3.1 The MV cables shall be cross linked polyethylene (XLPE) insulated PVC sheathed of 1100 volts grade as asked for in the schedule of quantities. **Cables upto 16 sq.mm shall be with copper conductor and 25 sq.mm and above shall be with aluminium conductor.**

3.1.1 TECHNICAL REQUIREMENTS:

All XLPE Aluminium/Copper Power cables shall be 1100 Volts grade, multi core constructed as per IS : 7098 Part-I of 1988 as follows :

- Stranded Aluminium /Copper conductor in case of 10 sq.mm. and above and solid conductor in case of 10 sq.mm. and below.
- Cores laid up
- The inner sheath should be bonded over with thermo-plastic material for protection against mechanical and electrical damage.
- Armoring should be provided over the inner sheath to guard against mechanical damage. Armouring should be Galvanized steel wires or galvanized steel strips. (In single core cables used in A.C. system armouring should be non-magnetic hard aluminium Wires/Strips. Round steel wires should be used where diameter over the inner sheath does not exceed 13 mm; above 13 mm flat steel armour should be used. Round wire of different sizes should be provided against specific request.)
- The outer sheath should be specially formulated heat resistant black PVC compound conforming to the requirement of type ST2 of IS : 5831-1984 extruded to form the outer sheath.
- Conductor shall be of electrolytic Aluminium/Copper conforming to IS : 8130 and are compact circular or compact shaped.
- Insulation shall be of XLPE type as per latest IS general purpose insulation for maximum rated conductor temperature 70 degree centigrade.

- h) In Inner sheath laid up cores shall be bonded over with thermoplastic material for protection against mechanical and electrical damage.
- i) Insulation, inner sheath and outer sheath shall be applied by extrusion and lapping up process only.
- j) Armouring shall be of galvanized steel wire/flat.
- k) Repaired cables shall not be used.
- l) Current ratings of the cables shall be as per IS : 3961.
- m) The XLPE insulated cables shall conform to latest revision IS read along with this specifications. The Conductor shall be stranded Aluminium/Copper circular/ sector shaped and compacted. In multi core cables the core shall be identified by red, yellow, blue and black coloring of insulation.
- n) The XLPE insulated 1100 Volts grade power cables shall conform to latest IS and shall be suitable for a steady conductor temperature of 70 degree centigrade. The conductor shall be stranded Aluminium/Copper as called for in the Schedule of quantities. The outer sheath shall be as per the requirement of type ST-2 of IS:5831 of 1984.
- o) The cables shall be suitable for laying in racks, ducts, trenches, conduits and underground buried installation with uncontrolled back fill and chances of flooding by water.
- p) Progressive automatic in line sequential marking of the length of cables in meters at every one meter shall be provided on the outer sheath of all cables.
- q) Cables shall be supplied in non returnable wooden drums as per IS : 10418.

Both ends of the cables shall be properly sealed with PVC/Rubber caps so as to eliminate ingress of water during transportation, storage and erection.

- r) The product should be coded as per IS :- 7098 Part-I as follows :-

Aluminium Conductor	A
XLPE Insulation	2X
Steel round wire armour	W
Steel strip armour	F
Steel Double round wire armour	WW
Steel Double strip armour	FF
Non-magnetic (Al.) round wire armour	Wa
Non-magnetic (Al.) strip armour	Fa
PVC outer sheath	Y

4. INSPECTION

All cables shall be inspected by the contractor upon receipt at site and checked for any damage during transit.

5. TESTING OF CABLES

- 5.1 Cables shall be tested at works for the following tests before being dispatched to site by the project team.
 - a) Insulation Resistance Test.
 - b) Continuity resistance test.
 - c) Sheathing continuity test.
 - d) Earth test.(in armoured cables)

e) Hi Pot Test.

5.2 Test shall also be conducted at site for insulation between phases and between phase and earth for each length of cable, before and after jointing. On completion of cable laying work, the following tests shall be conducted in the presence of the Owner's site representative.

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

5.3 All tests shall be carried out in accordance with relevant Standard Code of Practice and Electricity Rules. The Contractor shall provide necessary instruments, equipment and labour for conducting the above tests and shall bear all expenses in connection with such tests. All tests shall be carried out in the presence of the Owner's site representative.

ANNEXURE-I

LIST OF INDIAN STANDARDS (IS)

IS : 374 - 1979	Ceiling fans and regulators (3rd revision)
IS : 694 - 1990	PVC insulated Electric cable for working voltage upto and including 1100 volts.
IS : 732 - 1989	Code of practice for electrical wiring and installation
IS : 1255 - 1983	Code of Practice for installation and maintenance of Power Cables upto and including 11 KV rating (Second Revision)
IS : 1258 - 1987	Bayonet lamp holders(Third revision)
IS : 1293 - 1988	Three pin plugs and sockets outlets rated voltage upto and including 250 volts and rated current upto and including 160 amps.
IS : 1554 - 1988 (Part - I)	PVC insulated (Heavy Duty) electric cables for working voltages upto and including 1100 volts.
IS : 1646 - 1982	Electrical installation fire safety of buildings (general) Code of practice.
IS : 1885 - 1971	Glossary of items for electrical cables and conductors
IS : 1913 - 1978	General and safety requirements for fluorescent lamps luminaries Tubular.
IS : 2026 - 1977 to 81 (Part I to IV)	Power Transformers
IS : 2071 - 1974 - 76	Methods of high voltage testing
IS : 2309 - 1989	Protection of building and allied structures against lightning
IS : 2551-1982	Danger notice plate.
IS : 3043 - 1987	Code of practice for earthing.
IS : 3427 – 1997	AC Metal enclosed switch gear and control gear for rated voltages above 1 KV and upto and including 52 KV.
IS : 3480 - 1966	Flexible steel conduits for electrical wiring.
IS : 3837 - 1976	Accessories for rigid steel conduit for electrical wiring.
IS : 4146 - 1983	Application guide for voltage transformers
IS : 4615 - 1968	Switch socket outlets.
IS : 5133 - 1969 (Part -I)	Boxes for the enclosure of electrical accessories.
IS : 5216 - 1982 (Part-I)	Guide for safety procedures and practices in electrical work.
IS : 5424 - 1969	Rubber mats for electrical purposes.
IS : 5578 & 11353-1985	Marking and arrangement of bus bars

IS : 7098 - 1985 (Part - II)	Cross linked polyethylene insulated PVC sheathed cables. For working voltages from 1.1 KV upto and including 11 KV
IS : 8130 - 1984	Conductors for insulated electric cables and flexible cords
IS : 8623 -1977 (Part -I)	Factory built assemblies of switchgear and control gear for voltages upto and including 1000 V AC and 1200 V.D C.
IS : 8623 - 1980 (Part -II)	Bus Bar trunking system
IS : 8828 - 1996	Miniature Circuit Breakers
IS : 9537 - 1981	Rigid Steel Conduits for electrical wiring (Second Revisions)
IS : 10810 - 1988	Methods of test for cables.
IS : 12640 - 1988	Earth Leakage Circuit Breakers
IS : 13947-1993 (Part-II)	Air Circuit Breakers
IS : 13947-1989 (Part-)	Moulded Case Circuit Breakers
IS : 13947 - 1993 (Part-)	Degree of protection provided by enclosures for LV switchgear and control gear.
IS : 13947 - 1993 (Part-)	General requirement for switchgear and control gear for voltage not exceeding 1000 Volts.
IS : 1651 & 1652 1991	Stationary cells and batteries lead acid type.

**(PLUMBING, SANITARY, WATER SUPPLY, SEWERAGE AND DRAINAGE
WORKS)**

SECTION - I SANITARY FIXTURES

1. SCOPE OF WORK

- 1.1 Work under this section shall consist of furnishing all Material and labor as necessary and required to completely install all Sanitary Fixtures, brass and chromium plated fittings and accessories as required by the drawings and specified hereinafter or given in the Schedule of Quantities.
- 1.2 Without restricting to the generally of the foregoing the Sanitary Fixtures shall include all Sanitary Fixtures, C.P. fittings and Accessories etc. necessary and required for the Building.
- 1.3 Whether specifically mentioned or not all Fixtures and appliances shall be provided with all fixing devices, nuts, bolts, screws, hangers as required.

2. GENERAL REQUIREMENTS

- 2.1 All sanitary Fixtures and fittings shall be Low flow type to reduce the water consumption, provided with all such accessories as are required to complete the item in working condition.
- 2.2 All Fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interior finish as per Architectural/ Interior designer's requirements. Wherever necessary the fittings shall be centered to dimensions and pattern desired.
- 2.3 Fixing screws shall be half round head Chromium Plated brass with C.P. washers wherever required as per directions of Engineer-in-Charge.
- 2.4 All Fittings and Fixtures shall be fixed in a neat workmanlike manner true to Levels and Heights shows on the drawings and in accordance with the manufacturer's recommendations. Care shall be taken to fix all Inlet and Outlet Pipes at correct positions. Faulty locations shall be made good and any damage to the finished floor, tiling or terrace shall be made good at Contractors cost.
- 2.5 When directed, Contractor shall install Fixtures and accessories in a mock-up room for the approval of the Engineer-in-Charge. Sample room Fixtures may be reused on the works if undamaged, but no additional payment for fixing or dismantling shall be admissible.

3. EUROPEAN W.C.

- 3.1 The closet shall be of white made of vitreous China and shall be of the best quality manufactured by an approved make. Each closet shall be provided with the following accessories: The make and model to be as specified in the BOQ. European water closet Floor mounted type.
- 3.2 Floor mounted type with WC connector, seat cover. Vitreous china flushing Cistern of 2- or 4-liters capacity with all internal parts of cistern-Exposed type (dual flush).

4. Wash Basin

(Wash basin shall be oval counter sunk, counter top, corner wash basin free standing They shall be of white/ color and of vitreous China with best quality manufactured by an approved firm and size as specified. Under cut Oval/circular washbasins shall be supported by a pair of CI brackets of approved design. The make and model to be as specified in the BOQ. Each wash basin shall be provided with the following. Single lever mixer/Pillar Cock 15mm CP brass auto close cock.
CP / copper / SS inlet connecting pipes with end nuts.
32mm CP waste coupling.
CP wall flanges 32mm CP Bottle Trap with extension pipe (casted type)
40 od P.P. connecting pipe up to floor trap.

5 TOWEL RAIL

Towel rail shall be of C.P. with reinforced bends and circular flanges. The make and model shall be as specified in the BOQ. The bracket shall be fixed by means of stainless-steel counter sunk screws to wooden/plastic cleats firmly embedded in the wall.

6. TOWEL RING

These shall be of CP/ sanitary ware. The make and model shall be as specified in the BOQ. These shall be fixed by means of C.P. brass counter sunk screws to wooden / plastic cleats firmly embedded in the wall. Towel ring shall be fixed with screws/capping having finish similar to the towel rail in wall with rawl plugs or nylon sleeves and shall include cutting and making good as required or directed by engineer – in- charge.

7. LIQUID SOAP DISPENSER

The Soap dispenser shall be of approved type as specified in the BOQ. It shall be made up of ABS plastic / CP material.

8. FLOOR TRAPS FRAME AND GRATING

The floor trap frame and grating shall be of approved material as specified in the BOQ. The trap shall be fitted with anti- cockroach grating. A minimum of 50mm depth of water seal shall be provided in the trap

9. HEALTH FAUCET

These shall be of CP / sanitary ware. The make and model shall be as specified in the BOQ. These shall be fixed by means of stainless-steel counter sunk screws to wooden/ plastic cleats firmly embedded in the wall. 15 mm CP health faucet with minimum 1.0m long flexible tube with end nuts & Hook. 1 No 15mm CP brass angular stop cock with wall flange Hook with CP brass counter sunk screws

10 Water Fountain

10.1 Drinking water Fountain with R.O. shall be wall mounting type made of stainless steel or any other material as given in the Schedule of Quantities.

10.2 The drinking water Fountain shall be with anti-squirt bubble less, self-closing valve type with automatic volume regulator.

11 Electric Water Heater:

11.1 The Electric Water Heater shall be five stars rated a complete package unit ready for plumbing and electrical service conditions. It shall be insulated with heavy duty 50 mm thick fiberglass blanket insulation and high gloss enamel finish outer shell. Electric Heating Coil rating and storage capacity shall be as shown on drawings.

11.2 Vertical pressure type electric water heaters shall be suitable for a minimum working head of 10 bars.

11.3 Construction: Inner containers shall be coated with glass, fused to steel at 870°C. This glass should provide corrosion resistance for steel.

- 11.4 Elements brazed to detachable brass heater plate, the whole being easily replaceable when required.
- 11.5 Heating elements constructed of a nickel chromium resistance wire, sheathed in a mineral filling, the whole being encased in a copper tube and subjected to a high voltage test of 1750 volts. Heater shall be supplied with adjustable setting thermostat including high temperature safety cut-out and over-pressure relief valve, drain point, electrical point, temperature indication, pilot indication, and necessary ancillaries.

12 Double Coat Hook

- 12.1 A Stainless steel, chrome plated double coat hook wall mounting type shall be provided as specified in bill of quantities

13 2 Way Bib cock

These shall be chromium plated brass heavy quality of "EGO" type or equivalent, and shall be easy type with capstan head. Flow Rating of two way bib cock as per green building rating. The size shall be as specified in the Bills of Quantities

14 Grab Rail (For Disabled Toilets)

- 14.1 Where specified in washroom facilities designed to accommodate physically handicapped, accessories should be provided as directed by the Engineer - in - charge.
- 14.2 Stainless steel grab bars of required size suitable for concealed or exposed mounting and non-slip gripping surface shall be provided in all washrooms to be used by physically handicapped as directed by the Engineer - in – charge.

15 Grating

- 15.1 Floor and urinal traps shall be provided with 125 mm round stainless steel gratings, with frame and rim of approved design and shape or as specified in the schedule of quantities approved by the Engineer - in - charge.

16 Cockroach Trap

- 16.1 Wherever specified in the drawings, and/or found necessary by Engineer - in – charge to be provide
- 16.2 approved cockroach trap having a minimum water seal of 50mm, suitable for fully vented one pipe system shall be provided. When buried in floor, the traps shall be encased in cement concrete 1:2:4 mix after jointing and testing for support and stability

17 Hand Drier

- 17.1 The hand drier shall be no touch operating type with solid state time delay to allow user to keep hand in any position.
- 17.2 The hand drier shall be fully hygienic, rated for continuous repeat use (CRU).
- 17.3 The rating of hand drier shall be such that time required to dry a pair of hands up to wrists is

approximately 30 seconds. The hand drier shall be of wall mounting type suitable for 230 V, single phase, 50 Hz, AC power supply.

18 Toilet Paper Dispenser

- 18.1 Toilet paper dispenser shall be wall mounted type of stainless steel. minimum 400-600 toilet paper shall be fit on dispenser.

SECTION - II

SOIL, WASTE & VENT PIPES

1. SCOPE OF WORK

- 1.1 Work under this section shall consist of furnishing all labour, materials, equipments and appliances necessary and required to completely install all soil, waste, Rain & vent and rainwater pipes as required by the drawings, specified hereinafter and given in the Schedule of Quantities.
- 1.2 Without restricting to the generally of the foregoing, the soil, waste, vent and rainwater pipes system shall include the followings:
- 1) Vertical and horizontal Soil, Waste and Vent Pipes, Rainwater Pipes and Fittings, Joints Clamps and connections to Fixtures.
 - 2) Connection of pipes to Gully Traps & Manholes etc.

2.0 Noise Insulated Piping System

2.1 SOCKET PIPES

Three Layer sound insulated Polypropylene piping (PP) system as per ON EN 1451-Part 1 & EN 12056 Part 1-5, DIN 1986-100 - class B & D, with 3 layer ULTRA SILENT pipe made of PP/MD/ML in Black colour (free from halogen, cadmium and heavy metals), push-fit type, food safe, having high impact and stiffness, offering sound levels of not more than 19 dBA at 4 l/s with basic clamps (EN-14366) having pipe ring stiffness of 6 kN/m² or more as per EN ISO 9969, density and elongation of pipe not more than 1.25gms/cm³ and 0.09mm/m0K respectively, Elastic Modulus tested according to ISO 178 and reached the result of 2300-3000 for ULTRA SILENT pipes, fitted with factory fitted lip ring, having 3 layers, pipes to be painted with indelible ink for external installation. Pipes and fittings to carry a 50 years according to confirmed standard cycle test result.

INTERNAL LAYER:

Of PP-C, hot water resistant to 97 degree C, tested in accordance to ON EN 1451-1 and DIN 19560, good heat and corrosion ageing stability as well as high chemical resistance and a smooth pipe inner-surface.

Color: Black (halogen and cadmium free)

INTERMEDIATE LAYER:

Of PP-MD compound reinforced with mineral aggregate, which guarantees greater stiffness and stability.

Color: Grey.

EXTERNAL LAYER:

Of Black PP-C. With high impact resistance and long term UV protection.

Color: Black (halogen and cadmium free).

2.2 PIPE RING STIFFNESS:

Pipe ring to be of 6kN/m² or more as per EN ISO 9969 and in accordance with ISO/DIS 9969 and

TIGHTNESS as per EN 1277/B and C and DIN 19560.

2.3 MARKINGS:

All pipes shall carry the following markings: Huliote logo, System type, Dimension, standard, stiffness level, materials, number of applicable standard, EN applicable, DIN standard, SI-Standard, Description of the pipe and its application, Production date, production time.

2.4 FITTINGS:

Single- Layered fitting reinforced with mineral aggregate, made of a Halogen free PP-C material, a reinforced wall and factory fitted lip ring, hot water resistant up to 95 degree c in accordance to ON EN 1451-PART 1-6 EN 12056 PART 1-5.

Color: Black (halogen and cadmium free)

- 2.5 **INSTALLATION:** The piping system must be clamped properly as required, pipes passing through walls, beams, slabs, columns should pass through sleeves which are padded with insulation material internally (between pipe and sleeve) covering the pipe to avoid transfer of body and structural borne sounds (refer manufacturer's installation guide lines). The piping must not touch any wall, structure, paneling, false ceiling etc.

Pipe DN (External Diameter)	Max. bracket distance for Horizontal installation – D1 Max	Max. bracket distance for Vertical installation – D Max
Ø 50	0.80	1.50
Ø 75	1.10	2.00
Ø 90	1.40	2.00
Ø 110	2.00	2.00
Ø 125	2.00	2.00
Ø 160	2.40	2.00

- 2.6 Drainage under Floor/Above Floor (Service Floors, Basement Ceiling Etc.) (32mm Up to 200mm Dia / ultra-silent)

- 2.6.1 All drainage lines passing under building, in exposed position above ground e.g., service floors, basement ceiling etc. shall be Multilayered as per details given in sub-clause 3.10 above or shall be as per details given below. Position of such pipes shall generally be shown on the drawings.

- 2.6.2 Fittings
3-layered reinforced polypropylene (PP) sewage pipes, halogen and lead free, with integral push-fit socket

- 2.6.3 Pipe Joints
Field-proven push-fit connection with improved and modified lip ring of high ageing-resistant shall be provided with the pipes and fittings for easy push-fit installation, installation procedure as given in clause 3.10 above shall be followed.

SECTION 3 (FIRE FIGHTING WORKS)

SECTION – I FIRE FIGHTING SERVICES

1) SCOPE

- 1.1 The scope of work covers design & engineering, supply, erection, painting, testing, commissioning, and handing over of complete Fire Protection System envisaged for all the buildings covered under the current phase of the project in line with stipulations of National Building Code – 2016.

Work under this sub-head consists of furnishing all Labour, Material, equipment and accessories necessary and required to completely install the Fire Fighting equipment etc., specified hereinafter and given in the Schedule of Quantities.-

- 1.2 Without restricting to the generality of the foregoing, the work of Fire Fighting System shall include the followings:
- a) Providing M.S. black steel pressure pipe line main including Valves, Fire Hydrants, Excavation for Pipes, Laying of pipes, Painting of pipe and Making Connection to supply system.
 - b) Black Steel Pipe, Mains Laterals, Branches, Valves Hangers and Appurtenances.
 - c) Hose Reels, Rubberized fabric lined hose pipes, Hose cabinets & Landing Valves.
 - d) Portable Fire Extinguishers.
 - e) Hydrants (Internal, External & related accessories).
 - f) Sprinkler System as per Requirements of All Admin Building.
 - g) Fire Fighting Pumps, Suction Delivery Lines, Electrical Panels & all other related accessories (as per requirements).
 - h) All civil and structural works, electrics, control & instrumentation, site & shop painting for fire fighting system.

2) APPLICABLE / REFERENCE CODES

- | | | |
|-------------------------|---|--|
| ➤ IS: 1239 (Part 1 & 2) | - | M.S. Pipe Heavy duty |
| ➤ IS: 14846 | - | Sluice valves (PN 1.6) |
| ➤ IS: 6392-1971 | - | Steel Pipe Flanges |
| ➤ IS:554 | - | Pipe threads where pressure tight joints are Required |
| ➤ IS:909 | - | U/G fire hydrants, sluice valve type |
| ➤ IS:5312 (P-1) | - | NRV |
| ➤ IS:778 | - | Gunmetal fullway valves with wheel tested to 20kg/cm ² class II |
| ➤ Butterfly valves | - | They shall be of specified quality conforming to IS:13095 or BS:5155 |
| ➤ IS:5290 | - | Internal hydrant shall comprise "Single Headed Single Outlet GM Landing Valve" conforming to Type "A". |
| ➤ IS:12585 | - | Hose tubing (Thermoplastic) |
| ➤ IS:884 | - | Hose tubing, Globe valve, Stop cock & Nozzle |
| ➤ IS:636 | - | Hose pipes rubber lined woven jacketed (RRL) & 63mm dia, conforming to type "A" |
| ➤ IS:903 | - | The couplings shall be of instantaneous [Branch pipe, nozzle, spring lock type coupling etc] |
| ➤ IS:15683 | - | Portable fire extinguishers |
| ➤ Pendant Sprinkler | - | UL Listed, Temperature Rating 68°C (155°F) |
| ➤ Upright Sprinkler | - | UL Listed, Temperature Rating 68°C (155°F) |
| ➤ Sidewall Sprinkler | - | UL Listed, Temperature Rating 68°C (155°F) |

1.0 PORTABLE FIRE EXTINGUISHER

Portable fire extinguishers shall be provided as per Bill of Quantities and shall conform to IS: 15683 and distribution of extinguishers in each buildings shall be in conformity with IS: 2190 - 2010.

1.1 ABC TYPE DRY POWDER EXTINGUISHER

- 1.1.1 The Extinguisher shall be filled with ABC Grade 40, Mono Ammonium Phosphate (MAP base) from approved manufacturer.
- 1.1.2 The Capacity of the extinguisher when filled with Dry Chemical Powder (First filling) as per IS 4308, part II 8/ IS 15683, shall be 6 kg \pm 2 % or 10 \pm 3 %.
- 1.1.3 It shall be operated upright, with a squeeze grip valve to control discharge. The plunger neck shall have a safety city, fitted with a pin, to prevent accidental discharge. It shall be pressurized with Dry Nitrogen, as expelling. The Nitrogen to be charged at a pressure of 15 kg / cm².
- 1.1.4 Body shall be of mild steel conforming to relevant IS Standards. The neck ring shall be also mild steel and welded to the body. The discharge valve body shall be forged brass or leaded bronze, while the spindle, spring and siphon tube shall be of brass. The nozzle shall be of brass, while the hose shall be of braided nylon. The body shall be cylindrical in shape, with the dish and dome welded to it. Sufficient space for Nitrogen gas shall be provided inside the body, above the powder filling.
- 1.1.5 The Neck ring shall be externally threaded the threading portion being 1.6 cm. The filler opening in the neck ring shall not less than 50 mm. Discharge nozzle shall be screwed to the hose. The design of the nozzle shall meet the performance requirement, so as to discharge at least 85 % of contents upto a throw of 4 meters, continuously, at least for 15 seconds. The hose, forming part of discharge nozzle, shall be 500 mm long, with 10 mm dia internally for 6 kg capacity and 12 mm for 10 kg capacity. It shall have a pressure gauge fitted to the valve assembly or the cylinder to indicate pressure available inside. The extinguisher shall be treated with anti-corrosive paint, and it shall be labeled with words ABC 2.5 cm long, within a triangle of 5 cm on each face. The extinguisher body and valve assembly shall withstand internal pressure of 30 kg / cm² for a minimum period of 2 minutes. The pressure Gauge shall be imported and suited for the purpose.

2.2 WATER TYPE EXTINGUISHER (GAS PRESSURE TYPE)

- 2.2.1 The Extinguisher medium shall be primarily water stored under normal pressure; the discharge being affected by release of Carbon Dioxide Gas from a 120 gms cylinder.
- 2.2.2 The capacity of Extinguisher, when filled upto the indicated level, shall be 9 liters.
- 2.2.3 The skin thickness of the cylinder shall be fabricated from Mild Steel sheet, welded as required, with dish and dome, being of same thickness, and of size not exceeding the diameter of body. The diameter of body to be not less than 150 mm and not exceeding 200 mm. The neck shall be externally threaded up to minimum depth of 16 mm, and leaded tin bronze.
- 2.2.4 The cap shall be of leaded tin bronze, and screwed on the body upto a minimum of 1.6 cm depth, with parallel screw thread to match the neck ring. The siphon tube to be of brass or G.I and the strainer of brass. The cartridge holder, knob, discharge fittings and plunger to be of Brass/Leaded tin bronze, and plunger of stainless steel, spring of stainless steel. It shall have a snifter valve to act as breather. The cap shall have handle fixed to it. The discharge hose shall be braided nylon, of 10 mm dia and 600 mm long, with a nozzle of brass fitted at end.
- 2.2.5 The extinguisher shall be treated for anti-corrosion internally and externally, and externally painted with Fire Red paint. The paint shall be stove enameled / powder coated. The cartridge shall be as per IS, and have 60 gm. Net carbon dioxide gas for expelling. The extinguisher, body and cap shall be treated to an internal hydraulic pressure of 25 kg/cm². It shall have external marking with letter A, of 2.5 cm height, in block letters within a triangle of 5 cm each side. The extinguisher shall be upright in operation, with the body placed on ground, and discharge tube with nozzle held in

one hand to give a throw of not less than 6 meter, and continue so for at least 60 sec. The extinguisher body shall be clearly marked with ISI stamp (IS 15683).

3.1 CARBON DIOXIDE EXTINGUISHER

- 3.1 The Carbon Dioxide Extinguisher shall be as per IS: 15683.
- 3.2 The Body shall be constructed of seamless tube conforming to IS: 7285, and having a convex dome and flat base. Its dia shall be maximum 140 mm, and the overlay height shall not exceed 720 mm.
- 3.3 The discharge mechanism shall be through a control valve conforming to IS: 3224. The internal siphon tube shall be of copper or aluminum conforming to relevant specifications.
- 3.4 Hose pipe shall be high pressure braided Rubber hose with a minimum burst pressure of 140 kg/cm², and shall be approximately 1.0 meters in length having internal dia of 10 mm. The discharge horn shall be of high quality unbreakable plastic with gradually expanding shape, to convert liquid carbon dioxide into gas form. The handgrip of Discharge horn shall be insulated with Rubber of appropriate thickness.
- 3.5 The gas shall be conforming to IS: 307 and shall be stored at about 85 kg/cm². The expansion ratio between stored liquid carbon dioxide to expanded gas shall be 1:9 times and total discharge time shall be minimum 10 sec. and Maximum 25 sec.
- 3.6 The extinguisher shall fulfill the following test pressures:
 - a. Cylinder: 236 kg/cm²
 - b. Control Valve: 125 kg/cm²
 - c. Burst pressure of Hose: 140 kg/cm² minimum.
- 3.7 It shall be an upright type. The cylinder, including the control valve and high pressure Discharge Hose must comply with relevant Statutory Regulations, and be approved by chief Controller of Explosives, Nagpur and also bear ISI marking.
- 3.8 The Extinguisher including components shall be ISI Mark.

ANNEXURE- A

APPLICABLE CODES, STANDARDS AND PUBLICATIONS

1. All equipment, supply, erection, testing and commissioning shall comply with the requirements of Indian Standards and code of practices. All equipment and material being supplied by the Contractor shall meet the requirements of IS., Tariff advisory committee's regulation (fire insurance), electrical inspectorate and Indian Electricity rules and other Codes/Publications as given below.

1.1 General :

SP : 6 (1)	Structural steel sections
IS : 27	Pig lead
IS : 325	Three phase induction motors
IS : 554	Dimensions for pipe threads where pressure tight joints are required on the threads.
IS : 694	PVC insulated cables for working voltages up to and including 1100 V.
IS : 779	Specification for water meters (domestic type)
IS : 782	Specification for caulking lead
IS : 800	Code of Practice for general construction in steel
IS : 1068	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium
IS : 1172	Code of basic requirements for water supply drainage and sanitation
IS : 1367 (Part- 1)	Technical supply conditions for threaded steel fasteners : Part 1 introduction and general information.
IS : 1367 (Part- 2)	Technical supply conditions for threaded steel fasteners : Part 2 product grades and tolerances.
IS : 1554 (Part- 1)	PVC insulated (heavy duty) electric cables : Part 1 for working voltages up to and including 1100V.
IS : 1554 (Part- 2)	PVC insulated (heavy duty) electric cables : Part 2 for working voltages from 3.3 kV up to and including 11 kV.
IS : 1726	Specification for cast iron manhole covers and frames
IS : 1742	Code of practice for building drainage.

IS : 2064	Selection, installation and maintenance of sanitary appliances — Code of practice.
IS : 2065	Code of practice for water supply in buildings.
IS : 2104	Specification for water meter boxes (domestic type)
IS : 2373	Specification for water meters (bulk type)
IS : 2379	Colour code for identification of pipe lines
IS : 2527	Code of practice for fixing rainwater gutters and down pipes for roof drainage.
IS : 2629	Recommended practice for hot dip galvanizing on iron and steel
IS : 3114	Code of practice for laying of cast iron pipes
IS : 4111 (Part 1)	Code of practice for ancillary structures in sewerage system : Part 1 manholes
IS : 4127	Code of practice for laying glazed stoneware pipes.
IS : 4853	Recommended practice for radiographic inspection of fusion welded butt joints in steel pipes
IS : 5329	Code of practice for sanitary pipe work above ground for buildings.
IS : 5455	Cast iron steps for manholes.
IS : 6159	Recommended practice for design and fabrication of material prior to galvanizing
IS : 7558	Code of practice for domestic hot water installations
IS : 8321	Glossary of terms applicable to plumbing work
IS : 9668	Code of practice for provision and maintenance of water supplies and fire fighting.
IS : 9842	Preformed fibrous pipe insulation
IS : 9912	Coal tar based coating materials and suitable primers for protecting iron and steel pipe lines.
IS : 10221	Code of practice for coating and wrapping of underground mild steel pipelines
IS : 10234	Recommendations for general pipeline welding.
IS : 10446	Glossary of terms relating to water supply and sanitation.
IS : 11149	Rubber Gaskets

IS : 11790	Code of practice for preparation of butt-welding ends for pipes, valves, flanges and fittings.
IS : 12183 (Part 1)	Code of practice for plumbing in multistoried buildings : Part 1 Water supply
IS : 12251	Code of practice for drainage of building basements
IS : 5572	Code of practice for sanitary pipe work
IS : 6700	Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their cartilage.
IS : 8301	Code of practice for building drainage
BSEN : 274	Sanitary tapware, waste fittings for basins, bidets and baths. General technical specifications.

1.2 PIPES AND FITTINGS :

IS : 458	Specification for precast concrete pipes (with and without reinforcement)
IS : 651	Salt glazed stone-ware pipes and fittings
IS : 1239 (Part 1)	Mild steel tubes, tubular and other wrought steel fittings Part 1 Mild Steel tubes
IS : 1239 (Part 2)	Mild steel tubes, tubular and other wrought steel fittings : Part 2 Mild steel tubular and other wrought steel pipe fittings.
IS : 1536	Centrifugally cast (spun) iron pressure pipes for water, gas and sewage
IS : 1537	Vertically cast iron pressure pipes for water, gas and sewage.
IS : 1538	Cast iron fittings for pressure pipes for water, gas and sewage
IS : 1729	Sand cast iron spigot and socket soil, waste and ventilating pipes, fittings and accessories.
IS : 1879	Malleable cast iron pipe fittings
IS : 1978	Line pipe
IS : 1979	High test line pipe
IS : 2501	Copper tubes for general engineering purposes
IS : 2643 (Part 1)	Dimensions for pipe threads for fastening purposes : Part 1 Basic

profile and dimensions.

IS : 2643 (Part 2)	Dimensions for pipe threads for fastening purposes : Part 2 Tolerances
IS : 2643 (Part 3)	Dimensions for pipe threads for fastening purposes : Part 3 Limits of sizes.
IS : 3468	Pipe nuts
IS : 3589	Seamless or electrically welded steel pipes for water, gas and sewage (168.3 mm to 2032 mm outside diameter)
IS : 3989	Centrifugally cast (spun) iron spigot and socket soil, waste and ventilating pipes, fittings and accessories.
IS : 4346	Specifications for washers for use with fittings for water services.
IS : 4711	Methods for sampling steel pipes, tubes and fittings
IS : 6392	Steel pipe flanges
IS : 6418	Cast iron and malleable cast iron flanges for general engineering purposes.
IS : 7181	Specification for horizontally cast iron double flanged pipe for water, gas and sewage.

1.3 VALVES :

IS : 778	Specification for copper alloy gate, globe and check valves for water works purposes
IS : 14846	Specification for sluice valves for water works purposes (50 mm to 1200 mm size)
IS : 1703	Specification copper alloy float valves (horizontal plunger type) for water supply fittings
IS : 2906	Specification for sluice valves for water works purposes (350 mm to 1200 mm size)
IS : 3950	Specification for surface boxes for sluice valves
IS : 5312 (Part 1)	Specification for swing check type reflux (non return) valves : Part 1 Single door pattern
IS : 5312 (Part 2)	Specification for swing check type reflux (non return) valves : Part 2 Multi door pattern
IS : 12992 (Part 1)	Safety relief valves, spring loaded : Part 1 – Design

IS : 13095 Butterfly valves for general purposes.

1.4 FIRE FIGHTING EQUIPMENT:

TAC	Tariff advisory committee fire protection manual Part I
TAC	Rules of Tariff Advisory Committee for Automatic Sprinkler system
NFPA :	Standards on Carbon Dioxide Extinguishing System
12, 1993	
IS : 636	Non- percolating flexible fire fighting delivery hose
IS : 884	Specification for First Aid Hose Reel for fire fighting
IS : 901	Specification for first aid hose reel for fire fighting
IS : 902	Specification for couplings, double male and double female, instantaneous pattern for fire fighting
IS : 903	Suction hose coupling for fir fighting purposes
IS : 904	Specification for fire hose delivery couplings, branch pipe, nozzles and nozzle spanner
IS : 905	Specification for 2-way and 3-way suction collecting heads for fire fighting purposes
IS : 907	Specification for delivery breechings, dividing and collecting instantaneous pattern for fire fighting purposes
IS : 908	Specification for suction strainers, cylindrical type for fire fighting purposes.
IS : 909	Specification for underground fire hydrant, sluice valve type
IS : 910	Specification for combined key for hydrant, hydrant cover and lower valve.
IS : 15683	Specification for portable chemical foam fire extinguisher
IS : 1648	Code of practice for fire safety of building (general) : Fir fighting equipment and its maintenance.
IS : 15683	Specification for portable fire extinguishers dry powder (cartridge type)
IS : 2190	Selection installation and maintenance of first-aid fire extinguishers- Code of practice
IS : 2871	Specification for branch pipe, universal for fire fighting purposes.

IS : 15683	Specification for fire extinguishers, carbon dioxide type (portable and trolley mounted)
IS : 3844	Code of practice for installation and maintenance of internal fire hydrants and hose reel on premises
IS : 5290	Specification for landing valves
IS : 5714	Specification for hydrant, stand pipe for fire fighting
IS : 8090	Specification for coupling, branch pipe, nozzle, used in hose reel tubing for fire fighting
IS : 8423	Specification for controlled percolation type hose for fire fighting
IS : 10658	Specification for higher capacity dry powder fire extinguisher (trolley mounted)
IS : 11460	Code of practice for fire safety of libraries and archived buildings
IS : 13039	External hydrant system – provision and maintenance – Code of practice.
IS : 5514	Reciprocating internal combustion engines : performance (Parts 1 to 7)

1.5 WATER QUALITY TOLERANCE :

IS : 3025 (Part 1 to 44)	Method of sampling and test (physical and chemical) for water and waste water
IS : 4764	Tolerance limits for sewage effluents discharged into inland surface waters
IS : 10500	Drinking water

1.6 PUMPS AND VESSELS :

IS : 1520	Specification for horizontal centrifugal pumps for clear cold fresh water
IS : 2002	Steel plates for pressure vessels for intermediate and high temperature service including boilers
IS : 2825	Code for unfired pressure vessels
IS : 4682 (Part 1)	Code of practice for lining of vessels and equipment for chemical processes Part 1 : Rubber lining

IS : 5600	Specification for sewage and drainage pumps
IS : 8034	Specification for submersible pump sets for clear, cold, fresh water
IS : 8418	Specification for horizontal centrifugal self priming pumps

ANNEXURE- B

Pipe Colour Code

S.No.	Pipe lines	Ground Colour	1 st Colour Band	2 nd Colour Band
1.	Filtered water (all cold water lines after filter)	Sea green	French blue	Signal red
2.	Drinking water (normal temperature)	Sea green	Light orange	
3.	Drinking water (chilled temperature)	Sea green	Light orange	Signal red
4.	Domestic hot water	Sea green	Light grey	
5.	Drainage	Black		
6.	Fire Lines	Red		

This color code is as per I.S. 2379-1

LIST OF MAKES

LIST OF MAKES OF MATERIALS

LIST OF APPROVED MAKES OF MATERIALS IS LISTED BELOW. HOWEVER, APPROVED EQUIVALENT MATERIALS OF ANY OTHER SPECIALIZED MAKES MAY BE USED, IN CASE IT IS ESTABLISHED THAT THE BRANDS SPECIFIED BELOW ARE NOT AVAILABLE IN THE MARKET SUBJECT TO APPROVAL BY THE ARCHITECT & ENGINEER-IN-CHARGE

A. CIVIL, STRUCTURAL, ARCHITECTURAL AND LANDSCAPING WORKS

S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
1.	CEMENT	AS PER RELEVANT CLAUSE/ ANNEXURE OF SCC
2.	WHITE CEMENT	J.K CEMENT, BIRLA GRASIM.
3.	AAC BLOCK	ULTRATECH, BILTECH, SHIRKE, INSTABLOCK, RS GREEN, AEROCON, JK LAKSHMI
4.	CHLORPYRIPHOS	AGRO CARE, AMVAC, DURSBAN, THIDDAN, PYRAMID
5.	READY MIX CONCRETE	AS APPROVED BY E.I.C
6.	SUPER PLASTICIZERS/ ADMIXTURES	SIKA, FOSROC, BASF, ASIAN LAB , KUNAL CONCHEM, CICO
7.	FLOOR HARDENER	HARDONATE, FOSROC, PIDILITE, CHOKSEY, CICO, SAMROCK
8.	WATER PROOFING COMPOUND (LIQUID)	PIDLITE, CICO, FOSROC, SNOWCEM INDIA, BASF, CHOKSEY, SIKA, STP, SAMROCK, FAIRMATE
9.	EPDM WATERPROOFING MEMBRANE	FIRESTONE, CARLISLE
10.	WALL PUTTY	BIRLA WHITE, JK CEMENT, MYK LATRICRETE, GOLDSIZE PUTTY BY SHALIMAR PAINTS LTD, ASIAN, SARA, NCL ALTEK SECCLOL LTD, DULUX, ASIAN PAINT
11.	NON SHRINK GROUT	BAL ENDURA, PIDILITE, FOSROC, BASF
12.	PIGMENT	TATA PIGMENT, SUDERSHAN CHEMICAL INDUSTRIES LTD.,

S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
13.	EXPANSION JOINTS	KANTAFLEX, SANFIELD, CONSTRUCTION SPECIALTIES, INPRO CORPORATION, HERCULES, DEVIN, GREENS BORO
14.	POLYSULPHIDE SEALANT	DOW CORNING, WACKER, PIDILITE, TUFFSEAL, CHOSKEY, ASIAN, FOSROC, BASF, CICO, SIKA
15.	SILICON SEALANT	DOW CORNING, GE, PIDILITE
16.	REINFORCEMENT STEEL (FE 500D)	TATA TISCON, JSW OR EQUIVALENT
17.	STRUCTURAL STEEL	AS PER RELEVANT CLAUSE/ ANNEXURE OF SCC
18.	M. S ROUNDS	AS PER RELEVANT CLAUSE/ ANNEXURE OF SCC
19.	GLAZED CERAMIC TILES	JOHNSON, RAK, SIMPOLO CERAMIC
20.	VITRIFIED TILES	JOHNSON, RAK, SIMPOLO CERAMIC
21.	GLASS MOSAIC TILES	JOHNSON, RAK, SIMPOLO CERAMIC
22.	ACID RESISTANT TILE	PELICAN CERAMIC, JENICO, ENDURA, REGENCY
23.	VINYL FLOORING	POLYFLOR, GERFLOR, TARKET, ARMSTRONG, FORBO, RESPONSIVE, LG HOUSSYS
24.	CARPET	SHAW, INTERFACE, MODULYSS
25.	DOOR MATTS	3M, FORBO
26.	PAVER BLOCKS	PAVIT, HINDUSTAN TILES, PAVERS INDIA OR APPROVED EQUIVALENT.
27.	KERB STONE	PAVER INDIA, SOBHA, SURFACE INDIA
28.	ALUMINIUM HARDWARE	EBCO, ECIE, CROWN, SAVEX, DORSET
29.	ALUMINIUM HARDWARE (FOR WINDOWS IN STRUCTURAL GLAZING)	EBCO, ALUALFA, SECURISTYLE

S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
30.	SS FITTINGS	OZONE, DORMA,GEZE, HAFELE
31.	ANCHOR FASTNER	HILTI, FISHER
32.	ALUMINIUM SECTIONS	INDAL, HINDALCO, JINDAL, BHORUKA, INDOALUSYS, SAIL
33.	ROLLING SHUTTERS & GRILLS	STANDARD, SWASTIK, AAKASH, PRAKASH, DHIMAN STEEL, SKS STEEL, SUPER STEEL, NARANG SHUTTERS
34.	FIRE RATED DOORS	SHAKTIHORMANN, GODREJ, MPP, SAINT GOBAIN
35.	FIRE RATED PARTITIONS	SAINT GOBAIN OR APPROVED EQUIVALENT
36.	AUTOMATIC SLIDING DOOR	OZONE, DORMA, HAFELE, GEZE
37.	MORTISE LOCKS WITH LEVER HANDLE	OZONE, DORMA, HAFELE, GEZE
38.	FURNITURE/CABINET HARDWARE	OZONE, DORMA, HAFELE, GEZE
39.	DOOR CLOSER	OZONE, DORMA, HAFELE, GEZE
40.	FLOOR SPRING	OZONE, DORMA, HAFELE, GEZE
41.	MISC. DOOR FITTINGS(HINGES, TOWER BOLTS, LATCHES, STOPPER TC)	OZONE, DORMA, HAFELE, GEZE
42.	ADHESIVE FOR JOINERY WORKS	FEVICOL SH / FEVICOL SPEEDEX/ SR 998, JEEVANJOR (VAMICOL)
43.	S. S. PATCH FITINGS/ PATCH LOCK	OZONE, DORMA, HAFELE, GEZE

44.	DISTEMPER & PAINTS	ASIAN PAINTS,ACRO PAINTS, JOTUN, HERITAGE, ICI DULUX
S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
45.	FIRE RETARDANT PAINTS	AKZO NOBLE PAINTS, (FYREPRUFFE), PROMAT, JOTUN,MARKET TRACERS (NAVAIR) NAVAIR INTERNATIONAL LTD (VIPER)
46.	HEAT REFLECTIVE PAINT	THERMATEK, THERMOSHIELD
47.	CEMENT PAINT	SNOWCEM INDIA, SUPERSCEM, ACROCEM,BERGER PAINTS, ASIAN, DREAMS COLOR, SUPEREMCEM, XTRACEM, KAMDHENU PAINTS
48.	TEXTURE FINISH/PAINT	ASIAN PAINTS,ACRO PAINTS, JOTUN, HERITAGE, ICI DULUX
49.	WOOD POLISH	ICA PIDILITE, SIRCA, KAPRI OR APPROVED EQUIVALENT
50.	POWDER COATING	AKZONOBEL, PPG OR APPROVED EQUIVALENT.
51.	WOOD VENEER	GREENLAM, DECOWOOD, TIMEX, TABU, HANSUR
52.	FLUSH DOOR & PLYWOOD	ARCHID, GREEN PLY, CENTURY, MERINO
53.	LAMINATES	MERINO, GREEN LAM, AICA
54.	DECORATIVE LAMINATE	MERINO, GREEN LAM, AICA
55.	GYPSUM BOARD	LAFARGE, BORAL, SAINT GOBAIN
56.	PRELAM PARTICLE BOARD	NOVAPAN, MERINO , CENTURY, GREENLAM,
57.	MDF - INTERIOR / EXTERIOR GRADE	NUWUD, GREENPLY, ARCHIDPLY, CENTURY, MERINO, DURATUFF
58.	FABRIC	RESPONSE, COLORAYS, DE_DECOR, VIMAL OR APPROVED EQUIVALENT
59.	PVC WATER STOP SEAL	MARUTI RUBBER UDYOG, JYOTI, FOSROC, FIXOPAN, SYNTEX
60.	ALUMINIUM COMPOSITE PANEL	ALUCOBOND, ALPOLIC, REYNOBOND
61.	POLY CARBONATE SHEET	POLYGAL, DANPALON or approved equivalent.

62.	GLASS	SAINT GOBAIN , AIS or approved equivalent.
63.	FALSE CEILING (GYPSUM BOARD)	SAINT GOBAIN, LAFARGE, BORAL, GRID SQUARE
S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
64.	FALSE CEILING (METAL)	ARMSTRONG, LUXLAON, DURLUM, HUNTER DOUGLAS, GRID SQUARE
65.	FALSE CEILING (MINERAL)	ARMSTRONG, SAINT GOBIN,USG, AMF, GRID SQUARE
66.	FALSE CEILING (OPEN GRID, TUBULAR)	DURLUM, ARMSTRONG, GRID SQUARE OR APPROVEDEQUIVALENT
67.	VENEER FALSE CEILING	ARMSTRONG, DURLUM, GRID SQUARE OR APPROVEDEQUIVALENT
68.	FALSE CEILING (CALCIUM SILICATE)	AEROLITE, HILUX (RAMCO), PROMAT, ARMSTRONG (MYLER/NEWTONE), GRID SQUARE
69.	CEMENT BOARD (FALSE CEILING)	BISON, NCL, SAINT GOBAIN, RAMCO OR APPROVED EQUIVALENT
70.	WOODEN LAMINATED FLOORING	PERGO, HARO, EGGER, ARMSTRONG, EGO FLOORING, EURO FLOORING
71.	GYPSUM PARTITION	SAINT GOBAIN, LAFARGE, BORAL
72.	FROSTED FILM	LIUMAR, 3M, AVERY, IQUE
73.	MIRROR	MODIGUARD, SAINT GOBIAN, ATUL, CONTINENTAL, ASAHI
74.	ACOUSTIC BOARDS	ANUTONE, ARMSTRONG, GOLDLINE
75.	ALUMINIUM LOUVERS	INDAL,HINDALCO, UNISTONE
76.	MOTORISED SLIDING GATE	GANDHI/DITEC, MAGNETIC AUTO CONTROL (P) LTD, FAAC, GODREJ
77.	STAINLESS STEEL (SS) - HANDRAILS/ RAILINGS	JINDAL, FABRINOX, SAIL, SALEM OR APPROVED EQUIVALENT
78.	DRAINAGE BOARD	AWD OR APPROVED EQUIVALENT
79.	RESTROOM CUBICLE SYSTEM	FUNDERMAX, GREENLAM, OR APPROVED EQUIVALENT
80.	GRAB BARS FOR HANDICAPPED	MERINO,HAFELE, HINDWARE,EURONICS

81.	ROCKWOOL	MINWOOL ROCK FIBRES,POLYBOND
82.	GLASSWOOL	UP TWIGA, LIOYDS, BAKELITE HYLAM OR APPROVED EQUIVALENT
S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
83.	DESIGNER CEMENT CONCRETE TILE	PAVIT, PAVER INDIA, K.K, HINDUSTAN TILES, NITCO or approved equivalent in the project location
84.	SPEED BREAKER	GANM, 7M OR APPROVED EQUIVALENT
85.	FALSE FLOORING	UNIFLOOR , UNITILE, , EVEREST INDUSTRIES, UNITED INSULATIONS,
86.	ADHESIVE TAPES/ VILYL PAPER/PRINT MEDIA/ SELF LIMINISCENT PAPER	3M, AVERY OR APPROVED EQUIVALENT
87.	APP MODIFIED BITUMEN	STP, IWL, PIDILITE, SIKA, CHOKSEY, BUILDTECH, FOSROC, CICO, DERMABIT, WATERGUARD, HYPERPLAS, LLOYD, ROOFSEAL, MOPLY, DAVCO ARMOURSHIELD
88.	ADHESIVE & GROUTS	KERAKOLL, BAL ENDURA, LATICREATE, FOSROC, PIDILITE
89.	SS CLAMPS, PINS (CLADDINGS)	HILTI, FISCHER, HALFEN
90.	ANTI-CORROSIVE COATING ON STEEL	ASIAN, BERGER, INTERNATIONAL, BOMBAY PAINTS
91.	OVER DECK INSULATIONS	LIOYDS INSULATIONS, MICRON, UP-TWIGA BEST PLASTRONICS, BASF, PIDILITE
92.	SPIDER FITTINGS	DORMA, HAFELE, GEZE, OZONE
93.	BLINDS	HUNTER DOUGLAS, VISTA, WALL TRACTS, DECK DECOR, MAC, ROSSELLE
94.	HEAT RESISTANT TILE	THERMATEK, INSULLA
95.	ACRYLIC SOLID SURFACE	DUPONT CORIAN, MERINO HANEX, HI-MACS, SAMSUNG STARON
96.	GLASS RAILING SYSTEM	OZONE, DORMAKABA, Q-RAILING
97.	WOOD PLASTIC COMPOSITE (WPC) DOOR & WINDOW FRAMES	ALSTONE OR APPROVED EQUIVALENT

98.	UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) DOORS AND WINDOWS	DUROPLAST, SAINT GOBAIN,ALUPLAST, FENESTA, UNI WINDOWS
99.	GYM EQUIPMENTS	LIFE FITNESS, CARDIOMED, ENDEAVOUR, VR,
S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
		POWER MAX, STEELFLEX, BODYSOLID
100.	INDOOR GAMING EQUIPMENTS	BRUNSWICK, STAG, SPINEC (FOOSEBALL TABLE) OR APPROVED EQUIVALENT
101.	CARROM BOARD	STAG, PRECISE, SYNCO
102.	GRC JALI	UNISTONE, SANDERSON THEME CONSTRUCTION, CAN BUILD GROUP
103.	HIGH PRESSURE LAMINATE	FUNDERMAX, ABET, TRESPA, PRODEMA
104.	MODULAR KITCHEN	WURFEL, HACKER, GODREJ, NOLTE, VENITA CUCINI, POGEBPOHL, SLEEK
105.	MODULAR KITCHEN HARDWARE	BLUM, HETTICH, HAFELE OR APPROVED EQUIVALENT
10.6	PVC EDGE BANDING FOR MODULAR KITCHEN	REHAU OR APPROVED EQUIVALENT
107.	KIDS PLAY EQUIPMENTS	OK PLAY, KOOCHIE, KOMPAN OR APPROVED EQUIVALENT.
108.	ARTWORK	EAST CRAFT, MILLENNIUM, STUDIO QUOTES, STONE ART, ARTEFACTS
109.	SYNTHETIC COURT	SPORTMASTER, EBACO,SYNCOTTS,SPORTS FIELD
110.	FURNITURE	
a.	MODULAR FURNITURE	HAWORTH, WALTERKNOLL, VITRA
b.	CHAIRS	HAWORTH, VITRA, HUMANSIZE
c.	LOOSE FURNITURE & SOFT SEATING	NATTUZI, HAWORTH, WALTERKNOLL, BENE, CHARM, VITRA, CDEESPACE
d.	CUSTOMIZED FURNITURE & COMPACTORS	BENEL, HAWORTH, CHARM, KNOLL, BENE, CDEESPACE
e.	EXPANSIONSBOLTS, ANCHOR	HILTI, FISCHER, EBCO

S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
	FASTENER	
f.	PARTICLE BOARD & MDF BOARD	ASIAN, MERINO, GREENPLY, CENTURY, DURO
g.	ALUMINIUM EXTRUSION SECTIONS	HINDALCO, INDALCO, JINDAL, BHORUKA, MAHAVIR
h.	LAMINATE	MERINO, GREENLAM, AICA
i.	FABRIC	RESPONSE, MEDLEY, TELLURE, WELLINGTON OR AS APPROVED EQUIVALENT
j.	LOCKS & HANDLES	HETTICH, HAFELE, BLUM
k.	CRCA / STEEL	TATA, SAIL, ESSAR, JINDAL
l.	HARDWARE FITTINGS	EBCO, HETTICH, HAFELE, BLUM
m.	SILICON SEALANT	DOW CORNING, GE, HILTI
n.	MELAMINE POLISH	MRF, BERGER, ASIAN
o.	WOOD VENEER	GREEN, MERINO, CENTURY, ARCHIDPLY, SHARDA PLYWOOD
p.	PU POLISH	SIRCA, ICA PIDILITE
q.	COMMERCIAL PLY & BOARD	MERINO, GREENLAM, ARCHIDPLY, CENTURY
r.	SOLID ACRYLIC SURFACE & ITS JOINTING ADHESIVE	LG HI-MACS, DUPONT, MERINO
s.	LEATHERETTE	RESPONSE, COMRADE, COLORAYS OR APPROVED EQUIVALENT
t.	PU FOAM	FEDA, FEATHER FOAM, SLEEPWELL OR APPROVED EQUIVALENT
u.	ADHESIVE TAPES/VINYL PAPER/PRINT/MEDIA/SELF	3M, AVERY or approved equivalent
111.	KITCHEN EQUIPMENTS	
a.	MARBLE TOP TABLE WITH 2 UNDER SHELF	MHS/EQUIVALENT
b.	FOUR DOOR REFRIGERATOR	HOSHIZAKI, WESTERN OR APPROVED EQUIVALENT

S. NO.	MATERIALS	MANUFACTURER/ SUPPLIER/ MAKE
c.	STONE BASE PIZZA OVEN	MENU MASTER, IFB, BUTLER, WHIRLPOOL
d.	DEEP FREEZER	WESTERN, EURONOVA/WESTERN, FROSTIER OR APPROVED EQUIVALENT
e.	SINGLE DEEP FAT FRYER	KARMA, RESTO, TALIA, LIVECOOK, AKASA
f.	TWO BURNER GAS RANGE	MHS/EQUIVALENT
g.	DOUBLE SANDWICH GRILLER	RESTO ITALIA, INDULGE, LIVECOOK, ROLLER GRILL
h.	COMBI OVEN	INOXTREND, RATIONAL, CONVOTHERM
i.	SS TANDOOR	MHS/EQUIVALENT
j.	SS STORAGE RACK	MHS/EQUIVALENT
h.	PLANETARY MIXER (TABLE TOP)	LIVECOOK/EQUIVALENT
i.	COMMERCIAL MIXER GRINDER	SUJATA
j.	PULVERISER-LIVECOOK	LIVECOOK/EQUIVALENT
k.	WORK TABLE WITH UNDER SHELF	MHS/EQUIVALENT
l.	SS RACK	MHS/EQUIVALENT
m.	SS SINK	MHS/EQUIVALENT
n.	WORK TABLE WITH SINK	MHS/EQUIVALENT
o.	PROFFER WITH HUMIDITY - LIVECOOK	LIVECOOK /EQUIVALENT
p.	THREE BURNER INDIAN RANGE	MHS/EQUIVALENT
q.	SS EXHAUST HOOD WITH BAFFLE FILTER	MHS/EQUIVALENT

r.	TWO DOOR UNDER COUNTER REFRIGERATOR	HOSHIZAKI/EQUIVALENT
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B. PLUMBING, SANITARY, WATER SUPPLY, SEWERAGE & DRAINAGE WORKS

S. No.	Details of Materials / Equipment	Manufacturer's Name
1	EWS & Exposed Cistern	Hindware, Jaquar, Cera
2	Urinal With Sensor	Hindware, Jaquar, Cera
3	Wash basin	Hindware, Jaquar, Cera
4	C.P. brass fittings such as Concealed bib cock, two way bib cock Toilet Paper Holder, Angle valve, stop cocks, C.P. flexible pipes / hose connection, C.P. brass cast bottle trap, Towel ring / Towel rail, Shower Set, bib taps, C.P. brass health faucets, Soap dish, Coat hook / Robe hook Sensor Faucet etc.	Hindware, Jaquar, Cera
5	Stainless Steel Kitchen Sink	Anupam, Jena
6	PP Pipes & Fittings	Astral, Prakash, Supreme
7	Multi-Floor trap & Floor Trap	Astral, Prakash, Supreme
8	Sluice Valves	NVR, KSB, Advance
9	Butterfly Valve	NVR, KSB, Advance
10	Non - Return Valve / Check Valve	NVR, KSB, Advance
11	Motorized Butterfly Valve	NVR, KSB, Advance
12	Air Release Valve	NVR, KSB, Advance
14	Y Strainer	Beta Flow, Advance, Audco
15	Level Controller (Water)	Sant, Active Controls, Technika
16	Level Indicator (Water)	Sant, Active Controls, Technika
17	Paints	Nerolac, Asian, Burger

S. No.	Details of Materials / Equipment	Manufacturer's Name
18	Double seal water manhole cover	Everlast, Fiberlite, Esselar
19	Electric Water Heater / Gyser	Jaquar, AO Smith, Bajaj
20	Pypcoat for Burried Piping	IWL / Coaltek /Polycam
21	Welding Rods	Advani, Essab, Sant
22	Water Cooler	Oasis India, Sunrock, Voltas
23	Anaerobic STP	Organic Solution, Environment Technologies & Systems, Ecologic Waste Solutions, BS ENVIRO
24	RCC Pipe	Pragati, Krishna Spun Pipe, OM spun pipe
25	Stoneware pipes & Gully Trap	Anand, BK Ceramics industries
26	SFRC Manhole Cover & Grating	Everlast, Fiberlite, Esselar
27	Starter panel	L&T, Tricolite, Precision system
28	Cable	Skytone, Polycap, Navyflex
29	Solar Panel	Uratom, Sunbirds, Tata BP
30	WTP	BS Enviro, Thermax, Advent
31	Filter & Softener	BS Enviro, Thermax, Advent
32	RO. Plant & Water cooler	Oasis India, filtrin, Sunrock
33	Hydropneumatics, Submersible & Centrifugal Pump	Lubi, Grundfos, Ebara,
34	Support and clamps	Mupro, Fixotech, UBB
35	Modular Rain Water Harvesting	ICPL, RETAS
36	G.I./ MS Pipe	Prakash Surya, Jindal, TATA
37	Heat pump& Solar System	Heron India Pvt. Ltd., Metaphor, Ecoguard
38	Insulation for external / exposed hot water pipes	Supreme, K-Flex, ALP
39	SS Pipe	Jindal Arc, VIEGA,Geberitt

C. FIRE FIGHTING WORKS

FIRE FIGHTING APPROVED LIST OF MAKES			
SR. NO.	ITEM DESCRIPTION		MAKE
1	M.S PIPE	a)	APL APOLLO
		b)	JINDAL HISAR
		c)	TATA
2	FIRST AID HOSE REEL	a)	GUARDS
		b)	MINIMAX
		c)	NEWAGE
3	HOSE DRUM	a)	GUARDS
		b)	MINIMAX
		d)	NEWAGE
4	FIRE MAN AXE	a)	GUARDS
		b)	MINIMAX
		d)	NEWAGE
5	AIR VALVE	a)	GUARDS
		b)	MINIMAX
		c)	NEWAGE
6	FIRE CABINET	a)	GUARDS
		b)	MINIMAX
		c)	NEWAGE
7	ENAMEL PAINT	a)	NEROLAC
		b)	ASIAN
		c)	BURGER
8	BUTTERFLY VALVE	a)	NVR
		b)	KSB
		c)	ADVANCE
9	DUAL PLATE / WAFER TYPE NON-RETURN VALVE	a)	NVR
		b)	KSB
		c)	ADVANCE
10	NON-RETURN VALVE	a)	NVR
		b)	KSB
		c)	ADVANCE
11	PRESSURE SWITCH	a)	INDFOSS
		b)	SWITZER
		c)	EMRALD
12	PRESSURE GAUGE	a)	FIEBIG
		b)	GURU
		c)	EMRALD
13	ARMOUND CABLE	a)	SKYTONE
		b)	POLY CAP

		c)	BATRA HINLAY
14	FIRE PUMP	a)	LUBI
		b)	GRUNDFOS
		c)	EBARA
15	FIRE EXTINGUISHER	a)	GUARDS
		b)	MINIMAX
		c)	NEWAGE
16	AIR VESSEL	a)	GUARDS
		b)	MINIMAX
		c)	NEWAGE
17	Y-STRAINER	a)	NVR
		b)	ADVANCE
		c)	KSB
18	LANDING VALVE	a)	GUARDS
		b)	MINIMAX
		c)	NEWAGE
19	SPRINKLER HEAD	a)	NEWAGE
		b)	HD
		c)	TYCO
20	WELDING RODD	a)	SANT
		b)	Advani,
		c)	Essab
21	DI Threaded Fittings for pipe size upto 50mm dia	a)	Victaulic
		b)	Tyco,
		c)	New
22	DI Grooved Fittings for pipe size Above 50mm dia	a)	Victaulic
		b)	Tyco,
		c)	NEW (JTPR)
23	Support And Clamps	a)	Mupro
		b)	Fixotech
		c)	UBB
24	Annunciation Panel	a)	ABB
		b)	Adlac
		c)	Green Heck
25	Y- STRAINER	a)	NVR
		b)	ADVANCE
		c)	KSB
26	ANTI-VIBRATION PADS	a)	EASYFLEX
		b)	RESISTOFLEX
27	FLOW SWITCH	a)	MORLEY IAS
		b)	SYSTEM SENSOR
		c)	POTTER

D. ELECTRICAL WORKS

LIST OF APPROVED MAKES

SNO	Details of Materials / Equipment	Manufacturer's Name
A	MEDIUM VOLTAGE EQUIPMENT	
1	Power Distribution Panel	Ambit Switchgear KEPL LS Power Control Advance Panel Risha Panel
2	Final Distribution Board	Hager-Novello Legrand Ekinox3 Siemens Beta Guard 10KA Schneider - Acti9
3	Moulded Case Circuit Breaker (MCCB)	ABB Tmax Legrand - DPX3 L&T DU sine Schneider - NSX Siemens 3VL
4	Miniature Circuit Breakers	ABB Hager-H3 Legrand - DX3 Siemens Beta Guard 10KA Schneider - Acti9
5	Residual Current Circuit Breaker (RCCB)	ABB Hager-H3 Legrand - DX3 Siemens Beta Guard 10KA Schneider - Acti9

SNO	Details of Materials / Equipment	Manufacturer's Name
6	Power/Aux. Contactor	ABB AF
		L&T- MNX
		Legrand CTX3
		Siemens Sirius RT
		Schneider Tesys K, D, F
7	Control Transformer/Potential Transformers	Automatic Electric
		Gilbert & Maxwell
		Indcoil
		Pragati
		Precise
		Matrix
8	Current Transformer (Epoxy Cast Resin)	Automatic Electric
		Gilbert & Maxwell
		Indcoil
		Pragati
		Precise
9	Protection Relay (Numeric Type)	ABB
		Areva
		L&T
		Siemens
10	Indicating Lamps LED type and Push Button	GE Power Controls
		Larsen & Toubro (ESBEE)
		Schneider Electric
		Siemens
11	Overload relays with built in Single Phase preventer	ABB
		GE Power Controls
		Larsen & Toubro
		Mitsubishi Electrical
		Schneider Electric
		Siemens
12	Electronic Digital Meters (A/V/PF/Hz/KW/KWH) with LED Display	Automatic Electric
		L & T
		Schneider Electric
13	Static Power Meter & Logger (SPML)With RS 485 port	Conzerv
		Larsen & Toubro
		Schneider Electric
		Automatic Electric

SNO	Details of Materials / Equipment	Manufacturer's Name
14	PVC insulated XLPE aluminium/copper conductor armoured MV Cables upto 1100 V grade	Ralison
		Polycab
		Havells
		ESC
15	LT Jointing Kit / Termination	Birla-3M
		Raychem
		REPL
		Safe Kit
16	Cable Glands Double Compression with earthing links	Baliga Lighting
		Comet
		Cosmos
17	Bimettalic Cable Lug	Comet
		Cosmos
		Dowell's (Biller India)
		Hax Brass (Copper Alloy India)
18	PVC insulated copper conductor stranded flexible wires (FRLS)	Ralison
		Polycab
		Havells
		ESC
19	Mettalic / GI Conduit (ISI approved)	RM-Con(AKG)
		BEC
		NIC
		Vimco
20	PVC Conduit & Accessoires (ISI approved)	AKG
		BEC
		Polypack
		Precision
21	Lead Coated Flexible GI Conduit	PLICA IndiaPvt. Ltd.
		Flexicon
		ABB – Lumina/ Classic
22	Switch & Socket- General	Schneider Electric-Liva
		MK- Aspect
		Legrand - Mylinc
		ABB - Concept BS

SNO	Details of Materials / Equipment	Manufacturer's Name
23	Industrial Socket	
	Splash Proof	Legrand
		Gewiss
		Schneider Electric
24	Industrial Socket	
	Metal Clad	Hansel
		MDS
		Legrand
25	Ceiling Fan	Crompton Greaves
		Havells
		Bajaj
		Usha
26	Lighting Fixture	
	a. LIGHT FITTING (FIXTURES)	PROLICHT
		Thorn
		Klite
		Osram
		Flos
		TARGETTI
	b. LAMPS	PHILIPS
		OSRAM
	c. CUSTOMIZED FIXTURES	KLITE
		KVA
		PROLICHT
		THORN
	d. LED	CREE
		NICHIEA
		LUMILEDS
		OSRAM
		BRIDGELUX
		CITIZEN
27	UPS	Eaton
		Schneider Electric
		Powerware
		GE
28	Lighting & Surge Voltage Protection	ABB
		Hager
		ObeoBetterman
		Schneider Electric
29	230/12 V Step Down Transformer with BUILTIN Isolation Transformer	Talema
		Volstat

30	Energy saving Units	FMS Inncom Inn Link Systems Pumba Electronics
SNO	Details of Materials / Equipment	Manufacturer's Name
31	Exit Signage's	Legrand MK Prolite Philips Thorn
32	Cable tray	Slotco Advance MM ENTERPRISES
33	Raceway	Legrand - CMS Advance MM ENTERPRISES
SNO	Details of Materials / Equipment	Manufacturer's Name
B	TELEPHONE	
a)	Cat-6 Cable	Legrand - LCS2 Panduit(Pannet) Siemon
b)	Fiber Optic Cable	Legrand - LCS2 Panduit(Pannet) Siemon
c)	Telephone Tag Blocks	KRONE Om Enterprises TVS
2.	Telephone Armoured Cables	DELTON CABLES FINOLEX POLYCAB SKYTOEN
3.	Patch Cords, patch panels, Splitter Box, cross connect outlet	Legrand - LCS2 Panduit(Pannet) Siemon
4.	Data Switches, Receiver, Media Converter	JUNIPER CISCO EXTREME ZYXEL
5.	WiFi(AP's)	AROoba RUCKUS PALOALTO HP

6.	Racks for Data Switches	VALRACK Rittal APW COMRACK
7.	EPABX	Avaya Panasonic Alcatel
8	Telephone Handset	Panasonic Beetel Avaya
SNO	Details of Materials / Equipment	Manufacturer's Name
C	Addressable Fire Detection & Public Address System	
a)	Intelligent Addressable Photoelectric Smoke Detectors	Schrack Ravel Nohmi COOPER EDWARD
b)	Intelligent Addressable Heat Detectors	Schrack Ravel Nohmi COOPER EDWARD
c)	Intelligent Addressable Fixed Temperature Heat Detectors	Schrack Ravel Nohmi COOPER EDWARD
d)	Intelligent addressable Manual Pull Station	Schrack Ravel Nohmi COOPER EDWARD
e)	Intelligent addressable Control Module	Schrack Ravel Nohmi COOPER EDWARD
f)	Intelligent addressable Monitor Module	Schrack Ravel Nohmi COOPER EDWARD
g)	Intelligent addressable Main Panel/Repeater Panel	Schrack Ravel Nohmi COOPER EDWARD
h)	Addressable Hooters/Speakers	Schrack Ravel

		Nohmi COOPER EDWARD
i)	Fire Supression System	Siemens Sinorix 1230 Novec
j)	Beam detector	Schrack Ravel Nohmi COOPER EDWARD
k)	Response indicator	Schrack Ravel Nohmi COOPER EDWARD
l)	Talk back unit	Schrack Ravel Nohmi COOPER EDWARD
SNO	Details of Materials / Equipment	Manufacturer's Name
m)	PA System	Schrack Ravel Nohmi COOPER HEINRICH EDWARD
n)	Mettalic/ GI Conduit (ISI approved)	BEC RM-CON NIC Vimco
o)	Control / power Cables/wires	Polycab Finolex ESC Havels
SNO	Details of Materials / Equipment	Manufacturer's Name
D	CCTV SYSTEM	Makes
1.	DVR, Central Monitoring software & Accessories	Infinova Wavesys Heinrich Mobotix
2.	CCTV- Cameras	Infinova Wavesys Heinrich Mobotix
3.	Lenses	Infinova Wavesys Heinrich Mobotix

4.	Weatherproof Housing	March Networks Infinova Oncam Heinrich Mobotix
5.	Control / power Cables-	Polycab Finolex ESC Havels
6.	Cat-6 Cables	Legrand - LCS2 Panduit(Pannet) Siemon
7.	PVC Conduits	AKG BEC Polypack NIC
8.	Metallic Conduits (MS/GI)	BEC NIC RM-CON
9.	Personal Computer	Dell H P IBM
SNO	Details of Materials / Equipment	Manufacturer's Name
10.	LCD	SONY LG SAMSUNG
11.	Printer	Epson H P NEC TVSE
12.	Mouse	Dell H P Logitech Microtek
13.	VIDEO CONFRENCING SYSTEM	Polycom Lifesize Avaya

E- HVAC WORKS

S.No.	Equipment/ Materials	Manufacturer's Name
1.	System In AHU With Central IAQ Monitor	Magneto Trane Kleen Air
2.	System In VRV Highwall Units	Magneto Trane Kleen Air
3.	Rectangular/ Round/ Spiral Duct	Projtech Dustech Engineers Ductofab
4.		Projtech Dustech Engineers Ductofab
5.	Pipe / duct supports	Hilti Gripple
6.	Grille / Diffuser / Dampers/ Flexible Canvass Cloth	RuskinTitus Pineaire System Air Mapro
7.	Smoke / Fire Damper (with UL listed actuator)	RuskinTitus Pineaire System Air Mapro
8.	Anchor Fastener	Fischer Hilti
9.	Anti-Microbial Nitrile Insulation	Armacell Aerolam Thermobreak
10.	a rubber factory laminated 7 mill Glass Cloth.	Armacell Aerolam Thermobreak
11.	Acoustic insulation Anti-Microbial Nitrile Insulation	Armacell Aerolam Thermobreak
12.	UV Protective Coating	Armacell (Armacheck) Pidilite (Fevicol) Paramount
13.	Fire Sealant	Birla 3 M Hilti
14.	Fire Wrap/Board/Paint	Birla 3 M Hilti

(to be printed on bidder's letterhead)

Quotation Form.

(date)

To: _____
(name of the procuring entity)

Address _____
(full address of the procuring entity)

We offer to execute the _____ *(name and identification number of the contract)* in accordance with the conditions of contract accompanying this bid for the contract price of

_____ *(amount in numbers and words)* _____
_____ *(name of currency)*•

The bid and the written acceptance of it shall constitute a binding contract between us.

We hereby confirm that this bid complies with the bid validity required by the bidding documents.

Authorized signature:

Name and title of signatory:

Name of bidder:

Address

Annexture-1
BILL OF QUANTITIES

For proposed construction work of new academic block & toilet block (Phas-2) at D.A.V. Public School, 7BLM-A, Srivijaynagar, Anupgarh, Raj.

	Site address	: D.A.V. Public School, Raisinghnagar road, Srivijaynagar			
	Proposed built-up area	: 594.19 Sqm			
	Rate basis	: Rajasthan PWD BSR (2022)			
Item No.	Description	Unit	Quantity	Rate	Amount
	Earth work & dismantling				
1	Demolishing brick work (in cement mortar) manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-incharge.	Cum	14.87		
2	Earth work in excavation by mechanical means (Hydraulic Excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including taking out the excavated soil and depositing and refilling of jhiri with watering & ramming and disposal of surplus excavated soil as directed with in a lead of 50 meter. All kinds of soils.	Cum	113.25		
3	Filing available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc in layer not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering lead up to 50m.	Cum	113.25		
4	Filling with locally available river sand at all levels including watering ramming consolidating and dressing complete including cost of sand.	Cum	866.13		
	Form work				
5	Centring and shuttering with plywood or steel sheet including strutting, propping etc. and removal of form for foundations, footings, bases of columns, etc. for mass concrete.	Sqm	37.39		
6	Centering & shuttering with plywood or steel sheets including strutting, propping bracing both ways with steel props and removal of formwork for upto floor five level for columns, pillars, posts and struts etc.	Sqm	307.70		
7	Centering & shuttering with plywood or steel sheets including strutting, propping bracing both ways with steel props and removal of formwork for upto floor five level for suspended floors, roofs, landings, staircases, balconies, girders, cantilevers, bands, coping bed plates, anchor blocks, sills, chhajjas, lintel, beam, plinth beam etc	Sqm	1025.37		
	PCC work				

8	Providing and laying in position cement concrete including curing, compaction etc. complete in specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 fine/ coarse sand : 8 graded stone aggregate 40 mm nominal size).	Cum	25.91		
9	Providing and laying damp-proof course with cement concrete grade M-150 (1 : 2 : 4) mortar prepared with 1% solution of water-proof compound complete as per specification, 50mm thick.	Sqm	52.68		
	RCC work				
10	Providing and laying in position specified grade of cement concrete for RCC structural elements upto floor five level including curing, compaction, finishing with rendering in cement sand mortar 1:3 (1 cement: 3 coarse sand) and making good the joints and cost of plastizers (if required) excluding the cost of centering, shuttering and reinforcement for Walls (any thickness) including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. M20 grade Nominal Mix / Design Mix	Cum	60.97		
11	Providing and laying in position specified grade of cement concrete for RCC structural elements upto floor five level including curing, compaction, finishing with rendering in cement sand mortar 1:3 (1 cement: 3 coarse sand) and making good the joints and cost of plastizers(if required) excluding the cost of centering, shuttering and reinforcement for Beams, suspended floors, roofs, grids having slopes up to 15°, landings, balconies, shelves, chajjas, lintels, bands, plain windows sills, staircases and spiral staircases etc. M20 grade Nominal Mix / Design Mix	Cum	128.06		
	Brick work				
12	Brick work with FPS bricks of class designation 75 in foundation and plinth in cement mortar 1:6 (1 cement : 6 coarse sand).	Cum	80.41		
13	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in cement mortar 1:6 (1 cement : 6 coarse sand).	Cum	289.93		
	Reinforcement				
14	Providing and fixing HYSD or Tor steel reinforcement for RCC work including straightening, cutting, bending and binding and placing in position with proper cover etc complete including cost and wastage of material and 18 SW gauge MS binding wire.	kg	23019.04		
	Plaster work				
15	Plaster on new exterior surface on walls in cement sand mortar 1:4 including racking of joints etc. complete fine finish : 20mm thick	Sqm	933.98		
16	Plaster on new interior surface on walls in cement sand mortar 1:6 including racking of joints etc. complete fine finish : 12mm thick	Sqm	1565.79		

	Steel & metal work				
17	Providing and fixing iron frames for doors, windows and ventilators of mild steel sections, joints mitred and welded with 15x3 mm lugs 10cm long embedded in cement concrete blocks 15x10x10 cm of 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) or with wooden plugs and screws or rawl plugs and screws or with fixing clips or with bolts and nuts as require including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.	kg	1144.38		
	L' section (40x40x5) door frames, complete with required steel hinges welded to the frame				
	size 1.2mx2.6m	no.	7		
	size 1.0mx2.6m	no.	2		
	size 1.0mx2.1m	no.	2		
	size 2.1mx2.6m	no.	1		
	Z' section (F4B, F7D etc) window frames and panels, complete with required steel hinges and handles.				
	size 0.9mx1.8m	no.	30		
	size 1.8mx1.8m	no.	2		
	size 1.0mx0.6m	no.	4		
18	Providing and fixing aluminum work for doors ,windows, ventilators and partition with extruded built up standard tubular / appropriate Z sections and other sections of approved make conforming to IS :733 and IS :1285, fixed with rawl plugs and screws or with fixing clips ,or with expansion hold fasteners including necessary filling up of gap. at junctions , at top ,bottom and sides with required PVC/neoprene felt etc. Aluminium section shall be smooth ,rust free, straight ,mitered and jointed mechanically wherever required including cleat angle Aluminium snap beading for glazing /paneling , C.P. brass/ stainless steel screws Al. Hinges, Tower bolt & Al. handle & Al. Aldrop etc.,all complete as per architectural drawings and the directions of Engineer- in – charge. (Glazing and paneling to be paid for separately). Powder coating aluminum (minimum thickness of powder coating 50 micron)	kg	46.11		
	size 0.75mx2.1m	no.	5		
19	Providing & Fixing Aluminium composite panel of indo bond/euro/flexi bond of equivalent made 3mm that with 0.5mm thick skin& PVDF coated of approved shads for toilet door in double layer in Aluminium frame complete in all respect as per sample approved by Engineer in Charges	Sqm	7.88		
	Wood & glass work				

20	Providing and fixing external grade board solid core, 35mm thick flush door shutters finished with laminate on both sides and with vision panel not exceeding 0.1 sqm ISI 2202-67 marked using phenol formal dehyderesin in glue both sides, each door panel including approved ISI marked Stainless Steel butt hinges, 1 barrel bolt and 2 number of aldrops, fittings with necessary screws complete.	Sqm	30.45		
21	Providing and fixing 5mm thick glazing in panelled or panelled and glazed or T-iron frames and shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured) including fixing medium.	Sqm	65.69		
22	Providing and fixing 12mm thick fixed glass panles with semi-circular opening at bottom, of 300mm dia complete.	Sqm	2.23		
	Flooring & tile work				
23	Brick on edge soling for subfloor on compacted ground with bricks of class designation 75 including cement slurry etc. complete in cement mortar 1:4 (1 cement : 4 coarse sand).	Sqm	538.14		
24	Providing and laying brick tiles of class designation 100 over roofs grouted with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% of integral water proofing compound by weight of cement, over a 12 mm layer of cement mortar 1:3 (1 cement : 3 fine sand) and finished neat.	Sqm	561.09		
25	Kota stone slab flooring with area of each slab 900 to 2000 sqcm and 20mm thick over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand).	Sqm	598.85		
26	Providing and fixing 1st quality MAT & GLOSSY finished ceramic tiles colour such as standard white, grey, ivory, fume, red brown, light green, light blue, and other light shades with water absorbtion less than or equal to 0.08% confirming to IS : 13753 & IS : 15622 in floor, steps etc laid on bed on neat cement slury finished with flush pointing in the white cement mixed with pigment to match the shade of the tile complete (including the the cost of cement mortar bed 1:4).	Sqm	21.37		
	Finishing work				
27	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design.	Mtr.	142.95		
28	Making khurras 450 x 450mm with average minimum thickness 50mm cement concrete 1 : 2:4 over P.V.C. Sheet 1 Mtr. x 1 Mtr. x 40micron finished with 12mm cement plaster 1 : 3 and one coat of neat cement, rounding edges and making and finishing the out let complete.	Each	10		

	Painting work				
29	Finishing wall and ceiling with water proofing cement paint of approved brand and manufacture and or required shade to give an even shade including all scaffolding: New work (Two or more coats applied @ 3.84 kg/10 sqm).	Sqm	2695.04		
30	Painting MS work with synthetic enamel paint of approved brand and manufacture to give an even shade, two or more coats on new work.	Sqm	548.00		
	Sanitary Fixtures				
31	P & F White Vitreous China Double Syphonic European W.C. (I.S:2556Mark) with mounted W.V.C. flushing cistern of (IS : 2556 Mark) of 10 litre capacity complete with all necessary internal fittings, seat cover, jet spray etc including cutting and making good the wall and floor.	No.	5		
32	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including, bottle trap, painting of fittings and brackets, cutting and making good the walls wherever require.	No.	4		
33	P & F C.P. One hole/close hole basin mixer with casted spout.	No.	4		
34	Providing and fixing Superior quality CP Brass bib Cock with long thread 15 mm nominal size.	No.	5		
35	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350mm and 340x410x265mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required.	No.	4		
36	P & F all the required plumbing fittings including pipes, joints, traps, 100mm dia upvc pipe per khurra for rain water, required fittings for geyser etc.	Lump sum			
	Electrical Fixtures				
37	Providing & Fixing of BEE Star rated copper wound double ball bearing capacitor start, aluminium body & Metallic blade ceiling fan Conforming to all the performance requirements laid down in IS 374:2019 including all amendments, as applicable ; & Carry BIS licensing (i.e. ISI marking) with down rod up to 80 cm with secondary support safety cable (steel rope) , cotter pin with 3 x 1.5 sq.mm pvc insulated flexible copper conductor making connection testing etc. as required. All as per pre approved by Engineer in charge.				
	1200 mm Sweep	No.	32		
38	Providing & Fixing of Heavy duty capacitor start, copper wound Double ball bearing 900/1400 RPM single phase Exhaust fan conforming to IS:2312 ISI marked in existing opening including making connections testing etc. as required. All as per pre approved by Engineer in charge.				
	300 mm sweep(900/1400 RPM)	No.	2		

39	Providing & Fixing of IP20 SMD Mid Power LED batten type integrated light fixture made from Powder coated Extruded aluminium housing with in built driver & energy efficient direct fit (Retrofit) Polycarbonate/ Glass housing SMD Mid Power LED tube rod (with integral driver & alumn. heat sink), system lumen efficacy ≥ 110 lm/Watt output, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD < 10% , P.F. ≥ 0.95 , CRI >80 , life time of minimum 50000 burning hours with , 70% of intial Lumen maintained till life ends , CCT 3000°K / 4000°K / 5700°K /6000°K/6500°K (As per ANSI Bin),	No.	62		
40	Providing & Fixing of ISI marked (IS:1258) batten/angle lamp holder with CM/L no. printed and made out from industrial grade Polycarbonate or fire resistant ABS material, brass terminal & captive screwsincluding making connection testing etc. as required. All as per pre approved by Engineer in charge. (Rate only)	No.	0		
41	Providing & Fixing of energy efficient /energy saving IP 20 LED direct retrofit Bulb in existing holder or fixture as required with system lumen efficacy ≥ 100 lm/Watt output ,pf 0.95 , CRI >70, minimum life time of minimum 25000 Burning Hours with , 70% of intial Lumen maintained till life ends , CCT 3000°K / 4000°K / 5700°K /6000°K/6500°K (As per ANSI Bin) : 15 Watt (Rate only)	No.	0		
42	Providing & Fixing of Wiring Accessories OEM fabricated following size GI box of 1.2 mm thick with earthing terminal and adjustable floating clamp in recess/ surface suitable for modular accessories as required.All as per pre approved by Engineer in charge.				
	6 / 8 module	No.	22		
	12 module	No.	15		
43	Providing & Fixing of following size mounting grid plates with cover plates made from fire retardent UV established high performance engineering plastic suitable for all universal metal boxes for front installation & removal direct fit type complete in all respect.All as per pre approved by Engineer in charge.				
	6 module	No.	2		
	8 module	No.	20		
	12 module	No.	15		
44	Providing & Fixing of modular type switch/ bell push duly ISI marked (IS :3854) with CM/L no. printed and made out of unbreakable and fire retardant vergin UV Stabilized Polycarbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating ,minimum width of switch toggle(PUSH PART) should not less then 20mm, including all as per pre approved by Engineer in charge,making connections, testing etc. as required.				
	10 A one way switch	No.	74		
	16 A one way switch With Led Indicator	No.	20		
	32 Amp. 2 Module DP switch With Led Indicator	No.	16		

45	Providing & Fixing of modular type lockable feature socket duly made out of unbreakable and fire retardant vergin poly carbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating, including all as per pre approved by Engineer in charge,making connections, testing etc. as required.				
	6 A 3/5 pin shuttered socket	No.	18		
	6/16 A shuttered socket	No.	20		
46	Providing & Fixing of modular type 120 W Step Fan regulator duly ISI marked (IS 11037:1984) with CM/L no. printed made out of unbreakable and fire retardant vergin poly carbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating , including all as per pre approved by Engineer in charge,making connections, testing etc as required.				
	5 step fan regulator 2 Module 360 dgree rotating	No.	32		
47	Providing & Fixing of following modular accessories as per PWD specification for electrical Works, made out of unbreakable and fire retardant vergin poly carbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating , including all as per pre approved by Engineer in charge,making connections, testing etc. as required.				
	Blanking plate	No.	76		
48	Providing & Fixing of Recessed/surface mounting heavy duty horizontal type Double Door (Metal / Glazed)Distribution board with Metal end box made out from Galvanized steel / CRCA sheet not less then 1.2 mm thick conforming to IS-8623-1 & 3 / IEC 61439- 1 & 3, powder painted complete with reversible door (for double door DB only)100 amp. insulated copper bus bar/shorting link , copper neutral link, copper earth link , color coded interconnecting wire set of suitable rating and din bar,masking sheet, making internal DB terminations with copper lugs, Ferrules, detachable gland plate, including making connections, testing etc. as required. OEM shall have submit NABL / CPRI / ERDA accredited lab type test reports & All as per pre approved by Engineer in charge.				
	12 Way	No.	2		
49	Providing & Fixing of 240/415 V AC MCB with positive isolation of 10 kA breaking capacity (B/ C/D tripping characteristic as per type of load and site requirement) 4 KV impulse withstand voltage, ISI marked IS 8828(1996) / conforming to IEC 60898-1 2002, IEC 60947- 2, low watt losses, trip free mechanisum , energy limiting of class 3 as per IEC, minimum phase termination capacity of 35sq.mm., conductor line load reversibility , IP 20 contact protection and fitted in existing distribution board/sheets, minimum electrical operation 20,000 upto 20 A rating and 10,000 upto 63 A, 5000 for 80 A & above rating including making connections, testing etc. as required. OEM shall have submit NABL / CPRI / ERDA accredited lab type test reports & All as per pre approved by Engineer in charge.				

	Single pole MCB (With B/C curve tripping Characteristics), 6 A to 32 A rating	No.	20		
50	Providing & Fixing of 240/415 V isolator ISI marked IS:13947- III/conforming to IEC 60947-3, suitable for AC22A utilization category, 4KV impulse withstand voltage, true contact indication, Red colour dolly / lever shall have single mould covering over all poles for operation , two position din rail mounting, minimum phase termination capacity of 35sq.mm. IP 20 contact protection and fitted in existing distribution board / sheet including making connections, testing etc. as required. OEM shall have submit NABL / CPRI / ERDA accredited lab type test reports & All as per pre approved by Engineer in charge.				
	Double pole isolator, 30 A / 40 A rating	No.	6		
51	P & F conduiting & wiring as required as per pre approved by Engineer in charge.	Lump sum			
	TOTAL 'A' (civil and finishing works)				
	Total (in words) :				

Annexture-2

BILL OF QUANTITIES

For proposed renovation work of existing office block at D.A.V. Public School, 7BLM-A, Srivijaynagar, Anupgarh, Raj.

	Site address	: D.A.V. Public School, Raisinghnagar road, Srivijaynagar			
	Proposed built-up area	: 155.29 Sqm			
	Rate basis	: Rajasthan PWD BSR (2022)			
Item No.	Description	Unit	Quantity	Rate	Amount
	Earth work & dismantling				
1	Dismantling jack arch roofing and floors including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	Sqm	155.29		
2	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-incharge.	Cum	10.92		
3	Taking out doors, windows and clearstory windows shutters (steel or wood) including stacking within 50 meters lead: Of area 3 square meter and below	nos	10		
4	Earth work in excavation by mechanical means (Hydraulic Excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including taking out the excavated soil and depositing and refilling of jhiri with watering & ramming and disposal of surplus excavated soil as directed with in a lead of 50 meter. All kinds of soils.	Cum	6.90		
5	Filing available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc in layer not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering lead up to 50m. (1.25)	Cum	3.37		
	Form work				
6	Centering & shuttering with plywood or steel sheets including strutting, propping bracing both ways with steel props and removal of formwork for upto floor five level for suspended floors, roofs, landings, staircases, balconies, girders, cantilevers, bands, coping bed plates, anchor blocks, sills, chhajjas, lintel, beam, plinth beam etc	Sqm	193.93		
	PCC work				
7	Providing and laying in position cement concrete including curing, compaction etc. complete in specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 fine/ coarse sand : 8 graded stone aggregate 40 mm nominal size).	Cum	0.78		

8	Providing and laying damp-proof course with cement concrete grade M-150 (1 : 2 : 4) mortar prepared with 1% solution of water-proof compound complete as per specification, 50mm thick.	Sqm	2.09		
	RCC work				
9	Providing and laying in position specified grade of cement concrete for RCC structural elements upto floor five level including curing, compaction, finishing with rendering in cement sand mortar 1:3 (1 cement: 3 coarse sand) and making good the joints and cost of plastizers (if required) excluding the cost of centering, shuttering and reinforcement for Walls (any thickness) including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. M20 grade Nominal Mix / Design Mix	Cum	0.48		
10	Providing and laying in position specified grade of cement concrete for RCC structural elements upto floor five level including curing, compaction, finishing with rendering in cement sand mortar 1:3 (1 cement: 3 coarse sand) and making good the joints and cost of plastizers(if required) excluding the cost of centering, shuttering and reinforcement for Beams, suspended floors, roofs, grids having slopes up to 15°, landings, balconies, shelves, chajjas, lintels, bands, plain windows sills, staircases and spiral staircases etc. M20 grade Nominal Mix / Design Mix	Cum	28.29		
	Brick work				
11	Brick work with FPS bricks of class designation 75 in foundation and plinth in cement mortar 1:6 (1 cement : 6 coarse sand).	Cum	3.53		
12	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in cement mortar 1:6 (1 cement : 6 coarse sand).	Cum	38.23		
	Reinforcement				
13	Providing and fixing HYSD or Tor steel reinforcement for RCC work including straightening, cutting, bending and binding and placing in position with proper cover etc complete including cost and wastage of material and 18 SW gauge MS binding wire.	kg	2265.74		
	Plaster work				
14	Plaster on new exterior surface on walls in cement sand mortar 1:4 including racking of joints etc. complete fine finish : 20mm thick	Sqm	193.15		
15	Plaster on new interior surface on walls in cement sand mortar 1:6 including racking of joints etc. complete fine finish : 12mm thick	Sqm	207.17		
16	Repair of plaster wherever required on walls in cement sand mortar 1:6 including racking of joints etc. complete fine finish : 12mm thick (Rate only)	Sqm			
	Steel & metal work				

17	Providing and fixing pressed steel door and window frames conforming to IS:4351 manufactured from commercial mild steel sheet of 1.25 mm thickness including hinges jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm, or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge.	metre	137.46		
18	Providing and fixing SS grill in all windows and ventilators using MS flat, bar or pipe section.	kg	39.22		
	Wood & glass work				
19	Providing and fixing external grade board solid core 30mm thick flush door shutters finished with laminate on both sides, ISI 2202-67 marked using Phenol formal dehyderesin in glue both sides including approved ISI marked Stainless Steel butt hinges fittings with necessary screws complete.	Sqm	29.18		
20	Providing and fixing fully panelled /partly panelled double leaf shutters frame for windows and ventilators as per approved design and drawings with approved steel fittings as per Annexure 'A' and width of styles, bottom and top rails 75mm including intermediate rails 50mm wide, beading of 25mm x 15mm size on both faces (Area of frame excluding opening for panel or glazing inserts to be measured).	Sqm	9.71		
21	Providing and fixing 5mm thick glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured).	Sqm	6.81		
22	Providing and fixing panelling in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). SS wire gauge 14 mesh x 24 gauge	Sqm	4.96		
	Flooring & tile work				
23	Repair of brick on edge soling for subfloor on compacted ground with bricks of class designation 75 including cement slurry etc. complete in cement mortar 1:4 (1 cement : 4 coarse sand). (Rate only)	Sqm			
24	Providing and laying brick tiles of class designation 100 over roofs grouted with cement mortar 1:3 (1 cement : 3 fine sand) mixed with 2% of integral water proofing compound by weight of cement, over a 12 mm layer of cement mortar 1:3 (1 cement : 3 fine sand) and finished neat.	Sqm	141.76		
25	P & F 1st qualityVitrified Porcelain Polished tiles on floor, skirting and steps etc.in different sizes (thickness to be specified by manufactuer) with water absortion less than 0.08% and conforming to IS 15622 of approved make in all colour and shade, laid with 20 mm thick CM 1 : 4 including grouting the joints with white cement and	Sqm	154.87		

26	Providing and fixing 1st quality MAT & GLOSSY finished ceramic tiles colour such as standard white, grey, ivory, fume, red brown, light green, light blue, and other light shades with water absorbtion less than or equal to 0.08% confirming to IS : 13753 & IS : 15622 in floor, steps etc laid on bed on neat cement slury finished with flush	Sqm	50.73		
	Finishing work				
27	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design.	Mtr.	59.00		
28	Making khurras 450 x 450mm with average minimum thickness 50mm cement concrete 1 : 2:4 over P.V.C. Sheet 1 Mtr. x 1 Mtr. x 40micron finished with 12mm cement plaster 1 : 3 and one coat of neat cement, rounding edges and making and finishing the out let complete.	Each	4		
	Painting work				
29	Finishing wall and ceiling with water proofing cement paint of approved brand and manufacture and or required shade to give an even shade including all scaffolding: New work (Two or more coats applied @ 3.84 kg/10 sqm).	Sqm	1044.39		
	Sanitry Fixtures				
30	P & F White Vitreous China Double Syphonic European W.C. (I.S:2556Mark) with mounted W.V.C. flushing cistern of (IS : 2556 Mark) of 10 litre capacity complete with all necessary internal fittings, seat cover, jet spray etc including cutting and making good the wall and floor.	No.	3		
31	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including, bottle trap, painting of fittings and brackets, cutting and making good the walls wherever require.	No.	4		
32	P & F C.P. brass heavy & superior quality shower arm and shower head.	No.	3		
33	P & F C.P. wall mixer telephonic type crutch & telephonic shower.	No.	3		
34	P & F C.P. One hole/close hole basin mixer with casted spout.	No.	3		
35	Providing and fixing Superior quality CP Brass bib Cock with long thread 15 mm nominal size	No.	3		
36	P & F Kitchen & Lab. Sink of approved make with C.I. brackets duly painted, 40 mm C.P. waste coupling, C.P. Brass chain with rubber plug, 40 mm G.I. waste pipe up-to floor level complete including cutting and making good the wall & floor :				
	1.0 mm thick stainless steel AISI -304 & IS 13983-1994 kitchen sink of approved make as per Engineer-in- harge with large waste coupling. 18x16x6 inches	No.	2		
	1.0 mm thick stainless steel AISI -304 & IS 13983-1994 kitchen sink of approved make as per Engineer-in- harge with large waste coupling. 37x18x6 inches	No.	1		
37	P & F C.P. sink mixer with swinging spout J-pipe.	No.	3		

38	P & F all the required plumbing fittings including pipes, joints, traps, 100mm dia upvc pipe per khurra for rain water, required fittings for geyser etc.	Lump sum			
	Electrical Fixtures				
39	Providing & Fixing of BEE Star rated copper wound double ball bearing capacitor start, aluminium body & Metallic blade ceiling fan Conforming to all the performance requirements laid down in IS 374:2019 including all amendments, as applicable ; & Carry BIS licensing (i.e. ISI marking) with down rod up to 80 cm with secondary support safety cable (steel rope) , cotter pin with 3 x 1.5 sq.mm pvc insulated flexible copper conductor making connection testing etc. as required. All as per pre approved by Engineer in charge.				
	750 mm Sweep	No.	1		
	1200 mm Sweep	No.	9		
40	Providing & Fixing of Heavy duty capacitor start, copper wound Double ball bearing 900/1400 RPM single phase Exhaust fan conforming to IS:2312 ISI marked in existing opening including making connections testing etc. as required. All as per pre approved by Engineer in charge.				
	300 mm sweep(900/1400 RPM)	No.	4		
41	Providing & Fixing of IP20 SMD Mid Power LED batten type integrated light fixture made from Powder coated Extruded aluminium housing with in built driver & energy efficient direct fit (Retrofit) Polycarbonate/ Glass housing SMD Mid Power LED tube rod (with integral driver & alumn. heat sink) , system lumen efficacy ≥ 110 lm/Watt output, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD < 10% , P. F. ≥ 0.95 , CRI >80 , life time of minimum 50000 burning hours with , 70% of intial Lumen maintanened till life ends , CCT 3000°K / 4000°K / 5700°K /6000°K/6500°K (As per ANSI Bin),	No.	12		
42	Providing & Fixing of ISI marked (IS:1258) batten/angle lamp holder with CM/L no. printed and made out from industrial grade Polycarbonate or fire resistant ABS material, brass terminal & captive screwsincluding making connection testing etc. as required. All as per pre approved by Engineer in charge.	No.	9		
43	Providing & Fixing of energy efficient /energy saving IP 20 LED direct retrofit Bulb in existing holder or fixture as required with system lumen efficacy ≥ 100 lm/Watt output ,pf 0.95 , CRI >70, minimum life time of minimum 25000 Burning Hours with , 70% of intial Lumen maintanened till life ends , CCT 3000°K / 4000°K / 5700°K /6000°K/6500°K (As per ANSI Bin) : 15 Watt	No.	9		
44	Providing & Fixing of Wiring Accessories OEM fabricated following size GI box of 1.2 mm thick with earthing terminal and adjustable floating clamp in recess/ surface suitable for modular accessories as required.All as per pre approved by Engineer in charge.				
	3 module	No.	4		
	4 module	No.	1		

	6 / 8 module	No.	16		
	12 module	No.	1		
45	Providing & Fixing of following size mounting grid plates with cover plates made from fire retardent UV established high performance engineering plastic suitable for all universal metal boxes for front installation & removal direct fit type complete in all respect.All as per pre approved by Engineer in charge.				
	3 module	No.	4		
	4 module	No.	1		
	6 module	No.	5		
	8 module	No.	11		
	12 module	No.	1		
46	Providing & Fixing of modular type switch/ bell push duly ISI marked (IS :3854) with CM/L no. printed and made out of unbreakable and fire retardant vergin UV Stabilized Polycarbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating ,minimum width of switch toggle(PUSH PART) should not less then 20mm, including all as per pre approved by Engineer in charge,making connections, testing etc. as required.				
	10 A one way switch	No.	47		
	16 A one way switch With Led Indicator	No.	17		
	32 Amp. 2 Module DP switch With Led Indicator	No.	2		
47	Providing & Fixing of modular type lockable feature socket duly made out of unbreakable and fire retardant vergin poly carbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating, including all as per pre approved by Engineer in charge,making connections, testing etc. as required.				
	6 A 3/5 pin shuttered socket	No.	11		
	6/16 A shuttered socket	No.	12		
48	Providing & Fixing of modular type 120 W Step Fan regulator duly ISI marked (IS 11037:1984) with CM/L no. printed made out of unbreakable and fire retardant vergin poly carbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating , including all as per pre approved by Engineer in charge,making connections, testing etc as required.				
	5 step fan regulator 2 Module 360 dgree rotating	No.	10		
49	Providing & Fixing of following modular accessories as per PWD specification for electrical Works, made out of unbreakable and fire retardant vergin poly carbonate with brass terminals and captive screws & silver alloy contact tip with IP-20 rating , including all as per pre approved by Engineer in charge,making connections, testing etc. as required.				
	Blanking plate	No.	18		

50	Providing & Fixing of Recessed/surface mounting heavy duty horizontal type Double Door (Metal / Glazed)Distribution board with Metal end box made out from Galvanized steel / CRCA sheet not less then 1.2 mm thick conforming to IS-8623-1 & 3 / IEC 61439- 1 & 3, powder painted complete with reversible door (for double door DB only)100 amp. insulated copper bus bar/shorting link , copper neutral link, copper earth link , color coded interconnecting wire set of suitable rating and din bar,masking sheet, making internal DB terminations with copper lugs, Ferrules, detachable gland plate, including making connections, testing etc. as required. OEM shall have submit NABL / CPRI / ERDA accredited lab type test reports & All as per pre approved by Engineer in charge.				
	12 Way	No.	1		
51	Providing & Fixing of 240/415 V AC MCB with positive isolation of 10 kA breaking capacity (B/ C/D tripping characteristic as per type of load and site requirement) 4 KV impulse withstand voltage, ISI marked IS 8828(1996) / conforming to IEC 60898-1 2002, IEC 60947- 2, low watt losses, trip free mechanism , energy limiting of class 3 as per IEC, minimum phase termination capacity of 35sq.mm., conductor line load reversibility , IP 20 contact protection and fitted in existing distribution board/sheets, minimum electrical operation 20,000 upto 20 A rating and 10,000 upto 63 A, 5000 for 80 A & above rating including making connections, testing etc. as required. OEM shall have submit NABL / CPRI / ERDA accredited lab type test reports & All as per pre approved by Engineer in charge.				
	Single pole MCB (With B/C curve tripping Characteristics), 6 A to 32 A rating	No.	8		
52	Providing & Fixing of 240/415 V isolator ISI marked IS:13947- III/conforming to IEC 60947-3, suitable for AC22A utilization category, 4KV impulse withstand voltage, true contact indication, Red colour dolly / lever shall have single mould covering over all poles for operation , two position din rail mounting, minimum phase termination capacity of 35sq.mm. IP 20 contact protection and fitted in existing distribution board / sheet including making connections, testing etc. as required. OEM shall have submit NABL / CPRI / ERDA accredited lab type test reports & All as per pre approved by Engineer in charge.				
	Double pole isolator, 30 A / 40 A rating	No.	3		
53	P & F conduiting & wiring as required as per pre approved by Engineer in charge.	Lump sum			
TOTAL 'A' (civil and finishing works)					
	Total (in words) :				

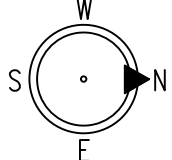
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30.11.2023



DRAWING TYPE :-

Academic area (Phase 01)
Ground floor plan & section

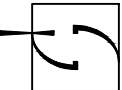
CLIENT :-.

DAV Public school
Srivijayanagar

PROJECT :-

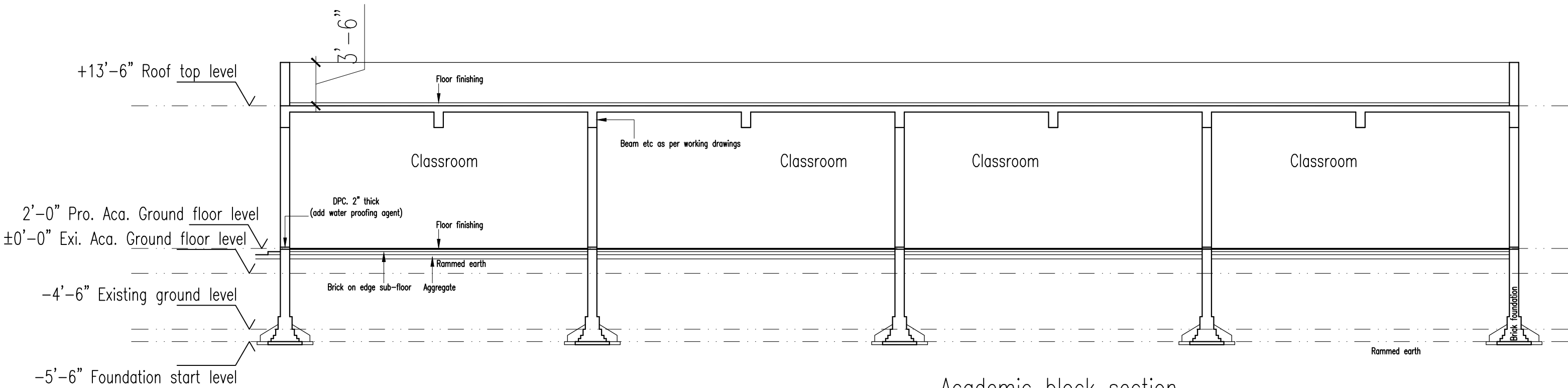
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Srivijayanagar

ARCHITECTS:-

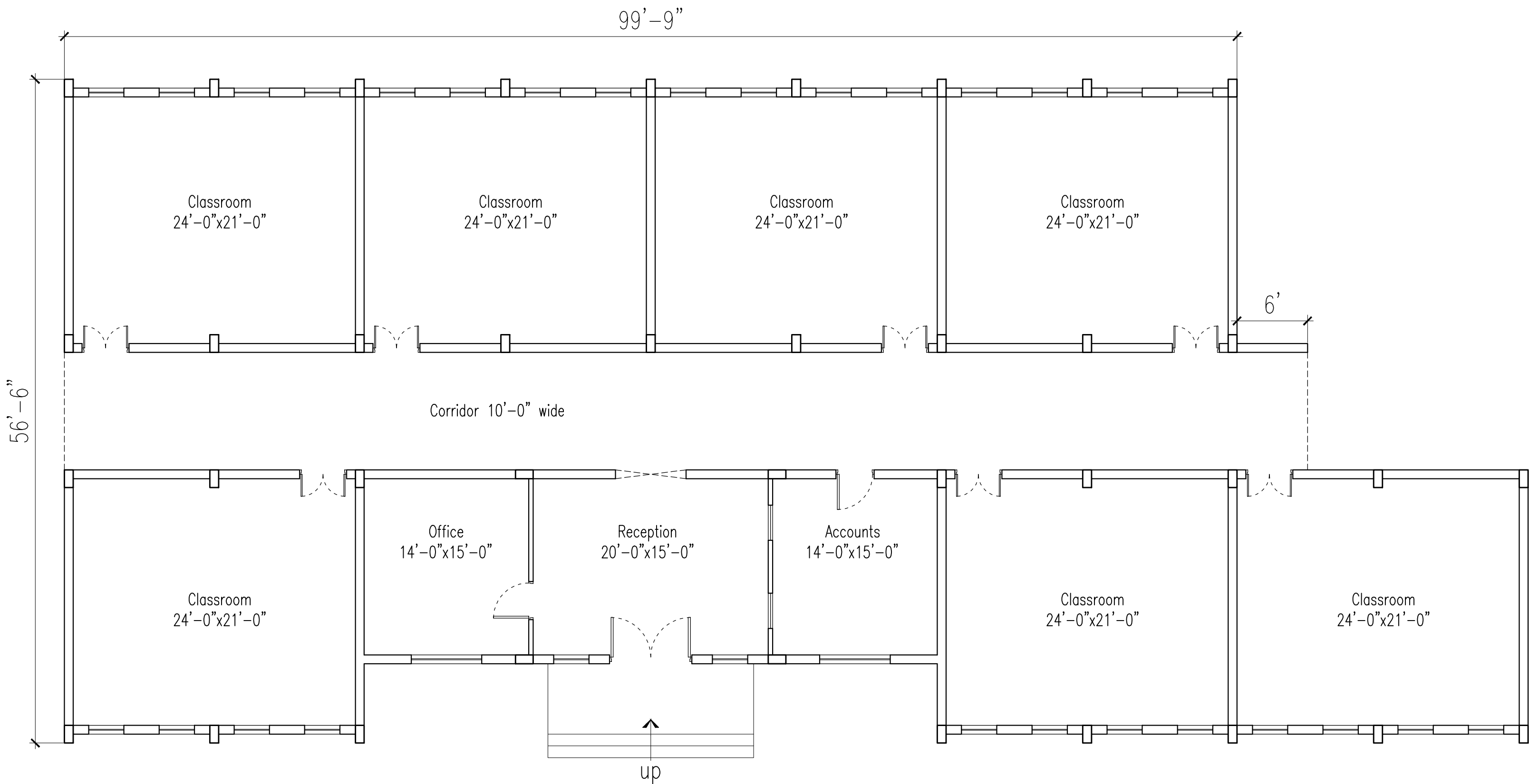


'D' for Deline
Ar. Surender Kumar

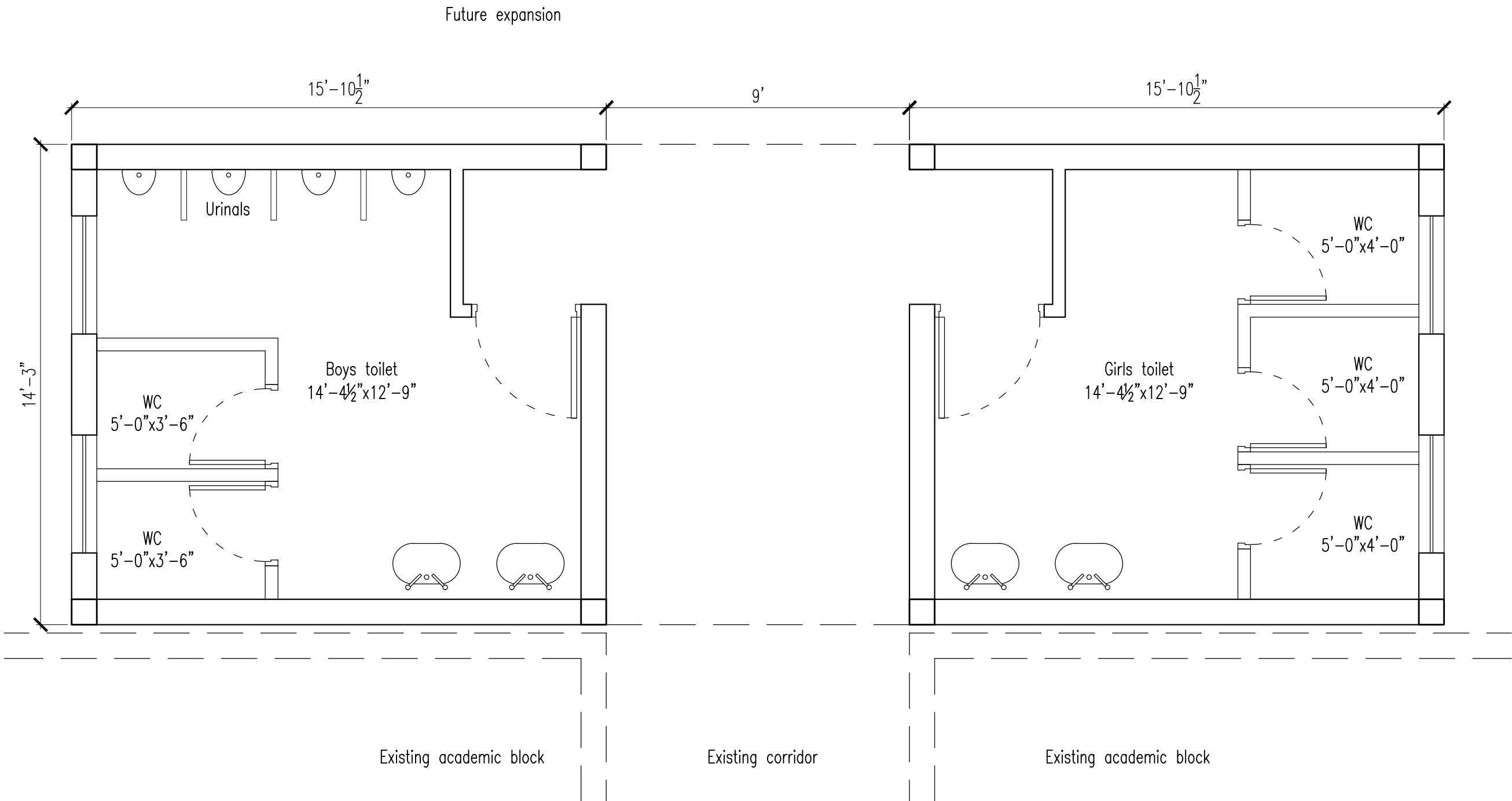
Architects, Engineers, Interior Consultants
Contact - 08826472064, 09667860783
e-mail- architectsurender@gmail.com



Academic block section










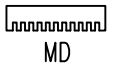



Academic block floor plan












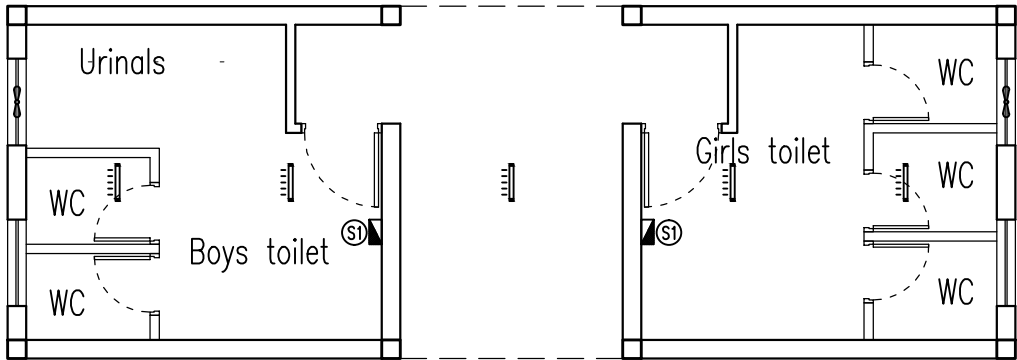
Toilet block plan

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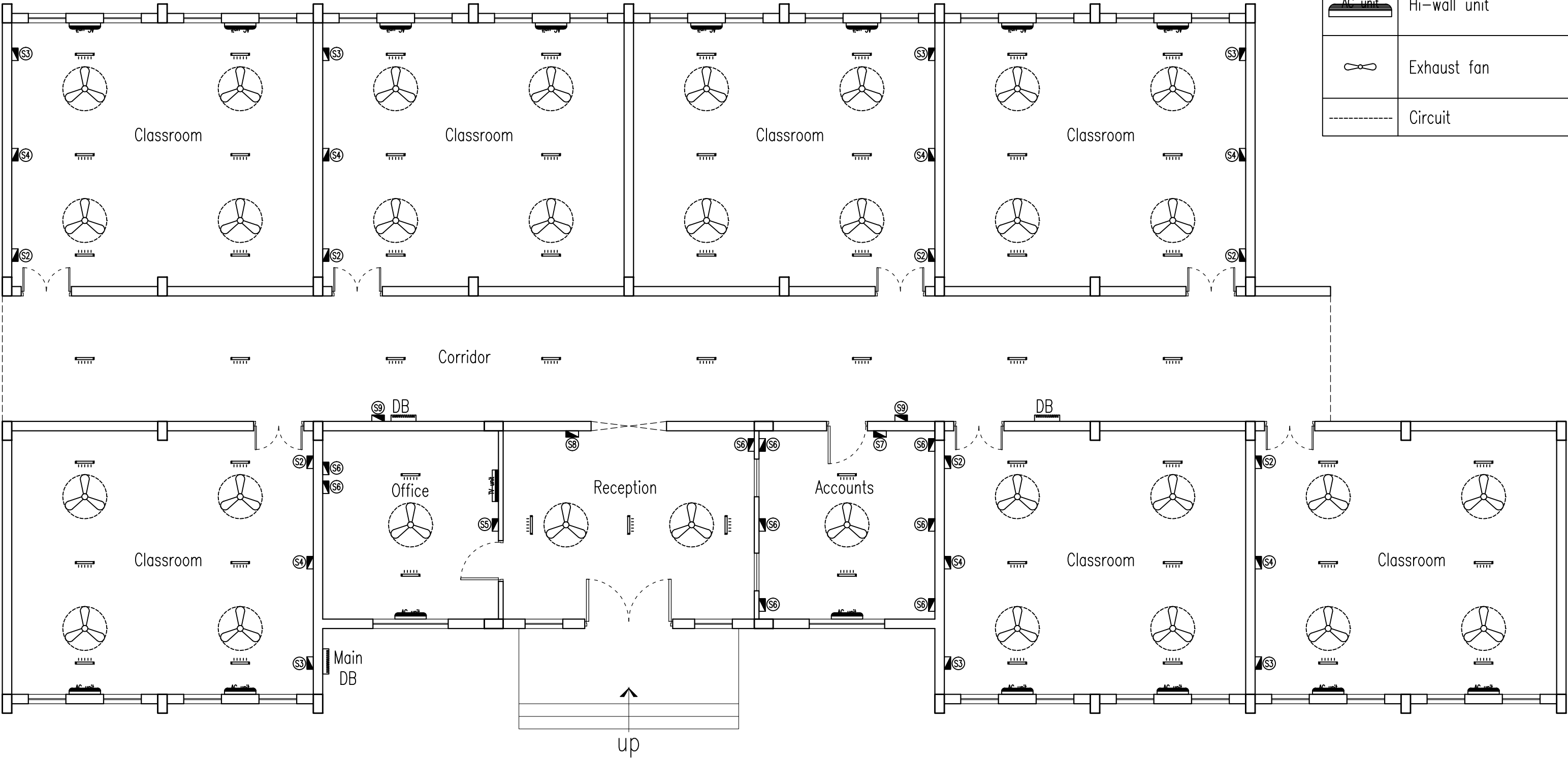
Legend :-

	Ceiling light
	Pendant light
	LED tube light
	Fan dia 30"/42"
	Switch board
	TV unit
	Switch board detailed:-
	Main DB
	Hi-wall unit
	Exhaust fan
	Circuit

-  @4'-0" level, 6 module
1- switch for lights
1- switch for exhaust fan
1- 16A switch socket
1- blank plate
-  @4'-0" level, 12 module
3- switch for lights
2- two module fan regulator
2- switch for fan
3- blank plate
-  @4'-0" level, 12 module
2- DP switch AC
2- two module fan regulator
2- switch for fan
2- blank plate
-  @2'-0" level, 8 module
1- 6A switch socket
1- 16A switch socket
1- RJ45 (Future)
1- blank plate
-  @4'-0" level, 12 module
1- DP switch AC
1- two module fan regulator
1- switch for fan
2- 6A switch socket for CCTV display unit
1- blank plate
-  @1'-6" level, 8 module
1- 6A switch socket
1- 16A switch socket
1- RJ45 (Future)
1- blank plate
-  @4'-0" level, 8 module
1- DP switch AC
1- two module fan regulator
1- switch for fan
1- switch for light
2- blank plate
-  @4'-0" level, 8 module
2- two module fan regulator
2- switch for fan
1- switch for light
1- blank plate
-  @4'-0" level, 6 module
2- switch for light
1- 16A switch socket



Toilet block electrical layout



Academic block electrical layout

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DRAWING TYPE :-

Layout plan

DRAWING TITLE :-

Academic area
Ground floor electrical layout

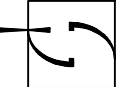
CLIENT :-

DAV Public school
Sriviayanagar

PROJECT :-

DAV Public school
Sriviayanagar

ARCHITECTS :-

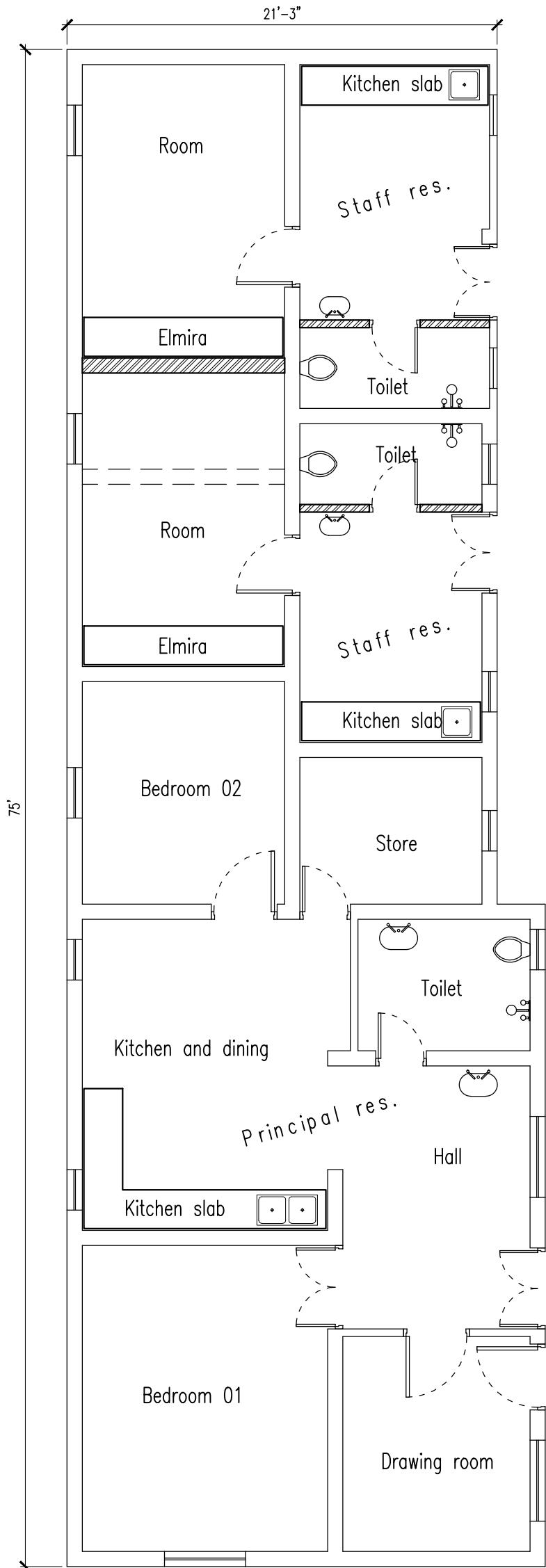


D for Dezin
Ar. Surender Kumar

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- Basic wall structure will be retained.
- 2, 4.5” thick brick partition are to be added.
- Only a few openings for doors and windows are to be altered.
- Existing jack arch roof shall be dismantled and replaced with RCC slab.
- All the finishing are to be renewed.

Proposed construction
Existing construction
Demolition



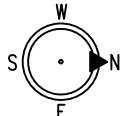
Residential block plan

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Layout plan

DRAWING TITLE :-
Residential block
Ground floor plan

CLIENT :-
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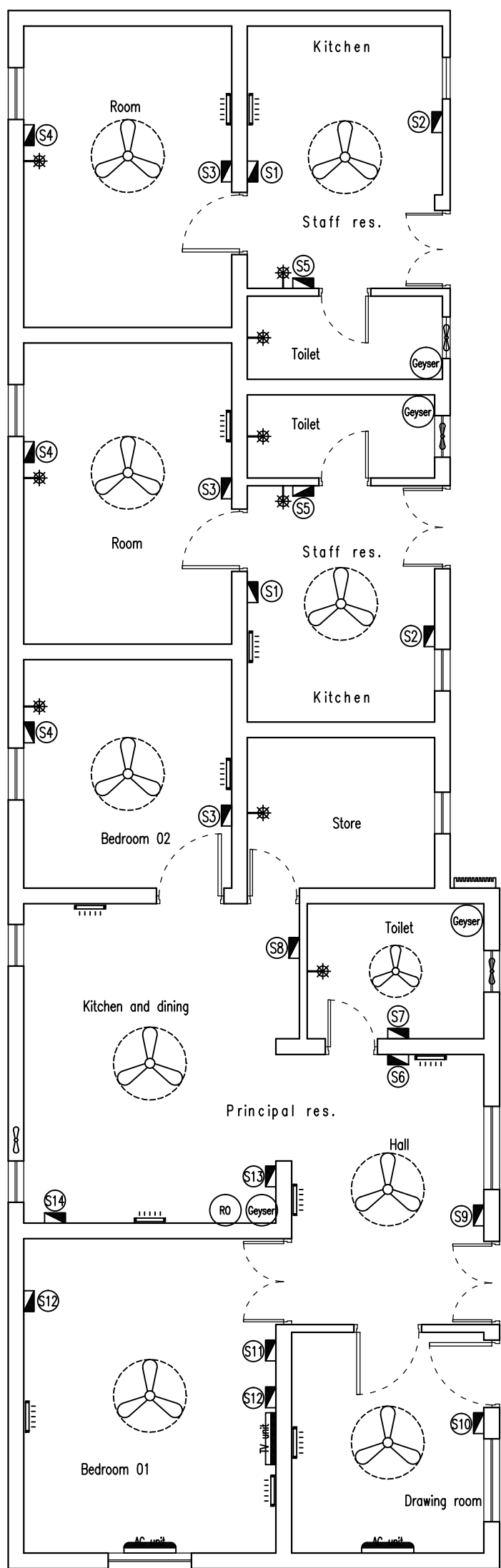
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ARCHITECTS :-



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Legend :-

	Ceiling light
	Pendant light
	LED tube light
	Fan dia 30"/42"
	Switch board
	TV unit
	Switch board detailed:-
	Main DB
	Hi-wall unit
	Exhaust fan
	Circuit

- @4'-0" level, 8 module
S1 1- switch for lights
1- two module fan regulator
1- switch for fan
1- 6A switch socket
1- blank plate
- @4'-0" level, 6 module
S2 2- 16A switch socket
- @4'-0" level, 8 module
S3 2- switch for lights
1- two module fan regulator
1- switch for fan
1- 6A switch socket
2- blank plate
- @4'-0" level, 3 module
S4 1- 16A switch socket for cooler etc
- @4'-0" level, 8 module
S5 2- switch for lights
1- switch for exhaust fan
1- switch for geyser
1- 6A switch socket
1- blank plate
- @4'-0" level, 8 module
S6 2- switch for lights
1- switch for exhaust fan
1- switch for geyser
1- 6A switch socket
1- blank plate
- @4'-0" level, 3 module
S7 1- switch for fan
1- two module fan regulator
- @4'-0" level, 4 module
S8 1- switch for light
1- 16A switch socket for fridge
- @4'-0" level, 6 module
S9 1- switch for light
1- switch for fan
1- two module fan regulator
2- blank plate
- @4'-0" level, 12 module
S10 1- switch for light
1- switch for fan
1- two module fan regulator
1- DP switch for AC
1- 6A switch socket
3- blank plate
- @4'-0" level, 8 module
S11 2- switch for light
1- switch for fan
1- two module fan regulator
1- DP switch for AC
1- blank plate
- @2'-0" level, 6 module
S12 1- 6A switch socket
1- 16A switch socket
- @4'-0" level, 8 module
S13 2- switch for light
1- switch for fan
1- two module fan regulator
1- switch for geyser
1- switch for R0
1- blank plate
- @4'-0" level, 8 module
S14 1- switch chimney
1- switch for exhaust fan
2- 16A switch socket

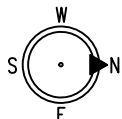
Residential block electrical layout

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Ground floor electrical layout

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