NOTICE INVITING TENDER

Name of work: Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment of Conference Hall at First Floor of Nirman Bhavan.

NIT NO. 17/PCD/PCSDIII/**2020-21**

Estimated Cost : Rs. 5,76,627/-

EMD: Rs. 11,533/-

Time for Completion: One (1) **Month**

Last date of bid Submission: 06-07-2020

NIT invited by Executive Engineer, Puducherry Central Division, Central Public Works Department, Puducherry, India

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

1. INDEX

Name of work: Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment of Conference Hall at First Floor of Nirman Bhavan**.**

Certified that the NIT contains 102 pages

NIT approved for Rs. 5,76,627/-

(Rupees Five Lakh Seventy Six Thousand Six Hundred and Twenty Seven only)

Assistant Engineer
PCSD-III, CPWD, Puducherry

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

2. NOTICE INVITING e- BIDS

The Executive Engineer, Puducherry Central Division CPWD, Puducherry invites on behalf of President of India, online Percentage Rate bids from the approved and eligible Contractors of composite category of Central PWD for following work:-

NIT No.	**17/PCD/PCSDIII/2020-21**
Name of work:	**Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment of Conference Hall at First Floor of Nirman Bhavan.**
Estimated Cost :	**Rs. 5,76,627/-**
Earnest Money :	**Rs. 11,533/-**
Period of Completion	**One (1) Month**
Last time and date of submission of Bid	**up to 15.00 hrs on 06-07-2020**

The Bid forms and other details can be obtained from the Web Site www.tenderwizard.com/CPWD or www.cpwd.gov.in.

Assistant Engineer,
PCSDIII, CPWD, Puducherry.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

3. INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF BID DOCUMENT

The Executive Engineer Puducherry Central Division, CPWD Puducherry on behalf of President of India invites online percentage rate bids from approved and eligible contractors of composite category of CPWD ~~and those of appropriate list of M.E.S., BSNL, Railway and …….. State P.W.D. (B&R) or State Govt.'s Department …….. dealing with building and roads, if there is no State PWD (B&R),~~ for the following work(s):

S. No.	NIT No	Name of Work and Location	Estimated cost put to bid (Rs)	Earnest Money Rs	Stipulated Period of Completion (in months)	Last date of online submission of bid, copy of receipt of deposition of original EMD and other documents as specified in the bid document.	Date and time of opening of bid
1	2	3	4	5	6	7	8
1	**17/PCD/PCSDIII/2020-21**	**Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment** of Conference Hall at First Floor of Nirman Bhavan**.**	**Rs. 5,76,627/-**	**Rs. 11,533/-**	**One (1) Month**	**Upto 15.00 Hrs on 06-07-2020**	**06-07-2020 after 15.30 hrs**

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he consider himself eligible and he is in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.tenderwizard.com/ CPWD or www.cpwd.gov.in free of cost.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

4. But the bid can only be submitted after deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission and uploading the mandatory scanned documents such as Demand draft or Pay order or Bankers Cheque or Deposit at call Receipt or Fixed Deposit Receipts and Bank Guarantee of any scheduled Bank towards EMD in favour of Executive Engineer as mentioned in NIT, receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/ AE), CPWD and other documents as specified.
5. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
6. The intending bidder must have valid class-III digital signature to submit the bid.
7. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of JPG format and PDF format.
9. Contractor must ensure to quote rate in the prescribed column(s) meant for quoting rate in figures appears in pink colour and the moment rate is entered, it turns sky blue. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as “0”. Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as “0” (ZERO). However, If a bidder quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest bidder.
10. SC/ST contractors enlisted under class V category are exempted from processing fee payable to ITI.

List of Documents to be scanned and uploaded within the period of bid submission:

I. Copy of receipt for deposition of original EMD issued from Division Office of any Executive Engineer, CPWD.
II. Treasury Challan / Demand Draft / Pay Order or banker's cheque / Deposit at call receipt / FDR / Bank Guarantee of any Scheduled Bank against EMD. Not necessary in case already these are deposited in original with the Executive Engineer opening the tender, with in period of tender submission.
III. CPWD Registration Certificate/Enlistment Order of the appropriate class.
IV. GST Registration Certificate obtained by the bidder is Mandatory.

CORRECTION ----NIL---- INSERTION ----NIL----

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V. Acknowledgement of up to date filed return of GST up to **February 2020** or thereafter is Mandatory.

VI. 0Notarized Affidavit of 'Non-black listing' by CPWD/State/Central departments/PSU/Autonomous bodies as per Form "J" (Not older than the date of Notice inviting tender) i.e., **29.06.2020.**

Document to be submitted after acceptance:

I. Licenses / Registrations or proof of applying for Labour licenses, registration with EPFO, ESIC & BOCW welfare Board.

II. Willingness certificate from concerned competent electrical contractor if required.

Note: All the above documents must be clearly displayed and seen by the tender opening authority before opening the actual bid.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

APPENDIX I: FORM 'J'

AFFIDAVIT

I/we undertake and confirm that our firm/partnership firm has not been blacklisted by any state/Central Departments/PSUs/Autonomous bodies during the last 7 years of its operations. Further that, if such an information comes to the notice of the department then I/we shall be debarred for bidding in CPWD in future forever. Also, if such information comes to the notice of department on any day before date of start of work, the Engineer-in-charge shall be free to cancel the agreement and to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee. (Scanned copy of this notarized affidavit to be uploaded at the time of submission of bid)

NOTE: Affidavit to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-

Signature of Bidder(s) or an authorized
Officer of the firm with stamp

Signature of Notary with seal

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

APPENDIX II: PRESCRIBED FORMAT OF RECEIPT OF DEPOSITION OF ORIGINAL EMD

Receipt of deposition of original EMD (Receipt No ----------/ Date---------)

1. Name of Work: **Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment** of Conference Hall at First Floor of Nirman Bhavan**.**
2. NIT No :**17/PCD/PCSDIII/2020-21**
3. Estimated Cost : **Rs. 5,76,627/-**
4. Amount of EMD :**Rs. 11,533/-**
5. Last Date of Submission of bid : **06-07-2020**

PRESCRIBED FORMAT TO BE FILLED BY EMD RECEIVING EE

1. Name of Contractor :
2. Form Of EMD :
3. Amount of EMD :
4. Date of Submission of EMD :

Signature: Name and Designation of EMD Receiving officer

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

5. CPWD-6 FOR E- TENDERING

1. **Percentage rate** bids are invited on behalf of President of India from approved and eligible contractors of composite category of CPWD ~~and those of appropriate list of M.E.S., BSNL, Railway and …….. State P.W.D. (B&R) or State Govt.'s Department …….. (strike out as the case may be) dealing with building and roads, if there is no State PWD (B&R)~~ for the Work of **Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment** of Conference Hall at First Floor of Nirman Bhavan**.**

   The enlistment of the contractors should be valid on the last date of submission of bids.

   In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

   1.1. The work is estimated to cost **Rs. 5,76,627/-**. This estimate, however, is given merely as a rough guide.

      1.1.1. The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids.

      For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

   ~~1.2. Intending bidders is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-~~

   ~~**Criteria of eligibility for submission of bid documents**~~

      ~~1.2.1. Conditions for Non-CPWD registered contractors only, if bids are also open to non-CPWD contractors. For works estimated cost upto tendering limit of class -1 composite category Contractor (However, for Horticulture and Furniture etc. discipline, it may be modified as per bidding limit of CPWD class I contractors of respective discipline as the case may be) Three similar works each of value not less than Rs. …….. or two similar work each of value not less than Rs. …….. or one similar work of value not less than Rs. …….. (all figures rounded to nearest convenient figure) in last 7 years ending previous day of last date of submission of bids.~~

      ~~**Note:-**~~

      ~~For works costing above tendering limit of class –II composite category contractors but upto tendering limit of Clause-I composite category Contractor (However, for~~

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

~~Horticulture and Furniture discipline, it may be modified as per bidding limit of CPWD class II and CPWD Class I contractors respectively of respective discipline as the case may be) when bids are open to non-CPWD contractors also, then class II contractors of CPWD registered shall also be eligible if they satisfy the eligibility criteria specified in 1.2.1 above.~~

~~1.2.2.Criteria of eligibility for CPWD as well as non-CPWD contractors,~~

~~For works estimated to cost above the tendering limit of class -1 composite category Contractor (However for Horticulture and Furniture discipline, it may be modified as per bidding limit of CPWD class I contractors of respective discipline as the case may be.) Three similar works each of value not less than Rs. ..... or two similar work each of value not less than Rs.....or one similar work of value not less than Rs.....(all figures rounded to nearest convenient figure) in last 7 years ending previous day of last date of submission of bids.~~

~~The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bid. This is applicable for 1.2.1 as well as 1.2.2 (This is not applicable for CPWD enlisted contractors of appropriate class in composite category)~~

~~**To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under:-**~~

~~I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submission of bid)~~

~~1.2.3.When bids are invited from non CPWD contractors and CPWD class II contractors as per provisions of clause 1.2.1 above, it will be mandatory for non CPWD contractors and CPWD class II contractors to upload the work experience certificate(s) and the affidavit as per the provisions of clause 1.2.2.~~

~~But for such bids, Class-I contractors of CPWD are eligible to submit the bids without submission of work experience certificate and affidavit. Therefore, CPWD class-I contractors shall upload two separate letters for experience certificate and affidavit~~

~~that these documents are not required to be submitted by them. Uploading of these two letters is mandatory otherwise system will not clear mandatory fields.~~

2. Agreement shall be drawn with the successful bidders on prescribed Form No. **CPWD 7 (**or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **One (1) Month** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. The site for the work is available.

   ~~OR~~

   ~~The site for the work shall be made available in parts as specified below:-~~

   ~~.....~~

   (ii) The architectural and structural drawing for the work is available

   ~~OR~~

   ~~The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.~~
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website www.tenderwizard.com/CPWD or www.cpwd.gov.in free of cost.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
8. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.
9. Earnest Money in the form of Treasury Challan or Demand Draft or Pay order or Banker's Cheque or Deposit at Call Receipt or Fixed Deposit Receipt (**drawn in favour of Executive Engineer, Puducherry Central Division, CPWD, Puducherry**) shall be scanned and uploaded to the e-Tendering website within the period of bid submission. The original EMD should be

deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, **minimum 50% of earnest money or Rs. 20 lac, whichever is less,** shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee of any scheduled bank having **validity for six months or more from the last date of receipt of bids** which is to be scanned and uploaded by the intending bidders.

Copy of Enlistment Order and certificate of work experience and other documents as specified in the press notice shall be scanned and uploaded to the e-Tendering website within the period of bid submission. **However, certified copy of all the scanned and uploaded documents as specified in press notice shall have to be submitted by the lowest bidder only along with physical EMD of the scanned copy of EMD uploaded within a week physically in the office of tender opening authority.** Online bid documents submitted by intending bidders shall be opened only of those bidders, whose original EMD deposited with any division of CPWD and other documents scanned and uploaded are found in order.

9A.The contractors registered prior to 01.04.2015 on e-tendering portal of CPWD shall have to deposit tender processing fee at existing rates, or they have option to switch over to the new registration system without tender processing fee any time.

The bid submitted shall be opened at 03:30 PM on **06-07-2020**.

10. The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if:
    (i) The bidder is found ineligible.
    (ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.
    (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
    (iv) If a bidder quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest bidder.
11. The contractor whose bid is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the bid amount within the period specified in Schedule F. This guarantee shall

be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/ Pay order of any Scheduled Bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board and programme chart (Time and Progress)within time specified in Schedule F including Provident Fund Code No. (If applicable) and also ensure the compliance of aforesaid provisions by the sub contractors, if any engaged by the contractor for the said work within the period specified in Schedule F.

12. The description of the work is as follows: **Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment** of **Conference Hall at First Floor of Nirman Bhavan.** Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.
13. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received

without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
15. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
16. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He 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 gazetted officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor orany of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The bid for the works shall remain open for acceptance for a period of **thirty/~~seventy five~~ (30/ ~~75)~~ days** from the last date of receipt of tenders in case of single bid system/ **~~Seventy Five (75) days~~** ~~from the last date of receipt of technical bid in case bids are invited on 2 or 3 bid envelop system. (strike out as the case may be).~~ If any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidders shall not be allowed to participate in the rebidding process of the work.

19. This notice inviting Bid shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-

(a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

(b) Standard **C.P.W.D. Form 7~~/8~~**or other Standard C.P.W.D. Form as applicable.

~~**20. For Composite Bids**~~

~~20.1.1. The Executive Engineer in charge of the major component will call bids for the composite work. The cost of bid document and Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite bid.~~

~~20.1.2. The bid document will include following three components:~~

~~Part A: CPWD 6, CPWD 7/8 including schedule A to F for the major component of the work, Standard General Conditions of Contract for CPWD 2020 as amended/ modified up to **06-07-2020.**~~

~~Part B:- General / specific conditions, specifications and schedule of quantities applicable to major component of the work.~~

~~Part C:- Schedule A to F for minor component of the work (competent authority under clause 2 and clause 5 shall be same authority as mentioned in schedule A to F for major components), General/specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.~~

~~20.1.3. The bidders must associate himself, with agencies as per NIT conditions~~

~~20.1.4. The eligible bidders shall quote rates for all items of major component as well as for all items of minor components of work.~~

~~20.1.5. After acceptance of the bid by competent authority,the EE in charge of major component of the work shall issue letter of award on behalf of the President of India. After the work is awarded, the main contractor will have to enter into one agreement with EE incharge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH incharge of minor components. One such signed set of agreement shall be handed over to EE/DDH incharge of minor component(s). EE of major component will operate Part A and Part B of the agreement. EE/DDH incharge of minor component(s) shall operate Part C alongwith Part A of the agreement.~~

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

~~20.1.6. Entire work under the scope of composite bid including major and all minor components shall be executed under one agreement.~~

~~20.1.7. Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.~~

~~20.1.8. The main contractor has to associate agencies for specialized component(s) conforming to eligibility criteria as defined in the bid document and has to submit detail of such agency(s) to Engineer in charge of relevant component(s).within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-charge of relevant component(s).~~

~~20.1.9. In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer in-charge of relevant specialized component(s). The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.~~

~~20.1.10. The main contractor has to enter into MoU with agency(s) associated by him . Copy of such MoU shall be submitted to EE/ DDH in charge of each relevant component as well as to EE incharge of major component. In case of change of associate contractor, the main agency(s) has to enter into MoU/agreement with the new contractor associated by him.~~

~~20.1.11. Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer- in-charge of the discipline of minor component directly to the main contractor.~~

~~20.1.12A. The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-charge of major component after record of completion certificate of all other components.~~

~~20.1.12B. Final bill of whole work shall be finalized and paid by the EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.~~

21. All disputes arising out of the contract shall be subjected to Court of Puducherry only after exhausting the remedy under Clause 25.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

CPWD- 7

GOVERNMENT OF INDIA

CENTRAL PUBLIC WORKS DEPARTMENT

STATE: Tamil Nadu CIRCLE: PCC

BRANCH: B & R DIVISION: PCD

REGION: Region Chennai SUB- DIVISION: **PCSD III**

Percentage Rate Tender & Contract for Works

Tender for the work of: **" Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment of Conference Hall at First Floor of Nirman Bhavan."**

(i) **Last date and time of submission of e-tenders shall be up to 15.00 hrs on 06-07-2020 and the Period during which EMD documents shall be submitted shall be up to 14.30 hrs on 06-07-2020**

(ii) To be opened in presence of bidders who may be present at **15.30** hours **o**n **06-07-2020 in the office of AE/PCSDIII/CPWD/PUDUCHERRY.**

TENDER

I/We have read and examined the notice inviting tender, schedule, A,B,C,D,E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for **(30) Thirty days** from the last date of receipt of bids **in case of single tender system/**~~Seventy five (75) days from the last date of receipt of **technical bid** in case tenders are invited on **2 tender/envelope system** / **3 tender/envelope system** for specialized work (strike out as the case may be) and not to make any modifications in its terms and conditions.~~

A sum of **Rs. 11,533/-** is hereby forwarded in cash / receipt treasury challan / deposit at call receipt of a scheduled bank/fixed deposit receipt of schedule bank / demand draft of a scheduled bank / bank guarantee issued by a scheduled bank as earnest money.

A copy of earnest money in receipt treasury challan /deposit at call receipt of scheduled bank/ fixed deposit receipt of scheduled bank is scanned and uploaded (strike out as the case may be). If I/We, fail to furnish the prescribed performance guarantee within prescribed period. I/we agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy be at liberty to forfeit the said earnest money absolutely. Further, if I /we fail to commence

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

work as specified, I/we agree that President of India or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said the performance guarantee absolutely. The said performance guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

Further I/We agree that in case of forfeiture of Earnest Money or Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We hereby declare that I/we shall treat the tender documents, drawings and other records connected with the work as secret/confidential documents and shall not communicate information / derived therefrom to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated…….. Signature of contractor
Witness : Postal Address

Address:
Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of Rs. _____ (Rupees_____)

The letters referred to below shall form part of this contract Agreement:-

i)
ii)
ii)

For & on behalf of the President of India.
Signatures……....

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

APPENDIX III (a): FORM OF PERFORMANCE SECURITY (GUARANTEE)

BANK GUARANTEE BOND-Format - I

In consideration of the President of India (hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement between……and …… (hereinafter called "the said Contractor(s)") for the work…… (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs. …… (Rupees …… only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We, …… (hereinafter referred to as "the Bank") hereby undertake to pay to the Government an amount not exceeding Rs. ……. (Rupees…… Only) on demand by the Government.
2. We, ……(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the Government stating that the amount claimed as required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. …….. (Rupees ……only)
3. We, the said bank further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.
4. We, ……. (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in- Charge on behalf of the Government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.
5. We, ……. (indicate the name of the Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the

~~Government to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.~~

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

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

~~8. This guarantee shall be valid up to ……unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. …… (Rupees ……..) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged. Dated the ……..day of ……for……(indicate the name of the Bank)~~

APPENDIX III (b): FORM OF PERFORMANCE SECURITY (GUARANTEE)

BANK GUARANTEE BOND-Format - II

In consideration of the President of India (hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement between……and …….....…… (hereinafter called "the said Contractor(s)") for the work…… (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs. ……. (Rupees …… only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We, ……. (hereinafter referred to as "the Bank") hereby undertake to pay to the Government an amount not exceeding Rs. …….. (Rupees……. Only) on demand by the Government.
2. We, ……(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the Government stating that the amount claimed as required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. …….. (Rupees …….only)
3. We, the said bank further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.
4. We, …….. (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in- Charge on behalf of the Government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.
5. We, …….. (indicate the name of the Bank) further agree with the Government thatthe Government shall have the fullest liberty without our consent and without affecting in anymanner our obligation hereunder to vary any of the terms and conditions of the said agreement orto extend time of performance by the said Contractor(s) from time to time or to postpone for anytime or from time to time any of the powers exercisable by the Government against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).
7. We, …… (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.
8. This guarantee shall be valid up to ……unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. …… (Rupees ……..)

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

APPENDIX IV: FORM OF EARNEST MONEY DEPOSIT (BANK GUARANTEE BOND)

WHEREAS, contractor …… (Name of contractor) (Hereinafter called "the contractor") has submitted his tender dated …… (Date) for the construction of …….. (Name of work) (Hereinafter called "the Tender')

KNOW ALL PEOPLE by these presents that we ……(Name of bank) having our registered office at …….. (Hereinafter called "the Bank") are bound unto ……. (Name and division of Executive Engineer) (Hereinafter called "the Engineer-in-charge") in the sum of Rs……(Rs. In words……..) for which payment well and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents. SEALED with the Common Seal of the said Bank this …… day of ……. 20……. .

THE CONDITIONS of this obligation are:

(1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender.

(2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge.

(a) Fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required; OR

(b) Fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,

We undertake to pay to the Engineer-in-Charge either up to the above amount or part thereof upon receipt of his first written demand, without the Engineer-in-Charge having to substantiates his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by his is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date* …… after the deadline for submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE …….. **SIGNATURE OF THE BANK**

WITNESS …….. **SEAL**

(SIGNATURE, NAME AND ADDRESS)

***Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.**

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

6. PROFORMA SCHEDULES

SCHEDULE 'A'

Schedule of quantities (as per PWD-3): **As per separate schedule attached**

SCHEDULE 'D'

Extra schedule for specific requirements / documents for the work, if any, Nil

SCHEDULE 'E'

Reference to General Conditions of contract. **GCC for Construction works 2020 as amended / modified upto last date of submission of Tender.**

Name of work: **Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment of Conference Hall at First Floor of Nirman Bhavan.**

Estimate cost of work	**Rs. 5,76,627/-**
i) Earnest money	**Rs. 11,533/- (to be returned after receiving performance guarantee)**
ii) Performance Guarantee	5% of tendered value
iii) Security Deposit	**2.5% of tendered value** **Or** ~~2.5% of tendered value plus 50% of PG for contracts involving maintenance of the building and services / other work after construction of same building and services/ other work~~

SCHEDULE 'F'

General Rules & Directions:

Officer inviting tender		**AE/PCSDIII/CPWD/PUDUCHERRY**
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3.		**see below**

Definitions:

2 (v)	Engineer- in- Charge for Civil :	**AE/PCSDIII/CPWD/PUDUCHERRY or his successor thereof**
	Engineer- in- Charge for Elect. :	
2 (viii)	Accepting Authority	**AE/PCSDIII/CPWD/PUDUCHERRY or his successor thereof**
2 (x)	Percentage on cost of materials and labour to cover all overheads and profits.	**15 %**
2 (xi)	Standard Schedule of Rates for Civil	**DSR-2018 with upto date correction Slips / amendments**
	Standard Schedule of Rate for Elect	**Not applicable**
2(xii)	Department	**Central P.W.D**

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

9 ii) **Contract Form** : Standard CPWD Contract Form **GCC for Construction works 2020 CPWD Form 7/8 as modified & corrected upto date of inviting tender**

Clause 1

i) Time allowed for submission of Performance Guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance — **4** days

ii) Maximum allowable extension with late fee @0.1% per day of performance Guarantee amount beyond the period provided in (i) above — **3** days

Clause 2

Authority for fixing compensation under clause 2 — **SE, PCC, Puducherry or his successor thereof**

Clause 2A

Applicable clause 2/ Clause 2A — Clause 2A Not Applicable

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start — **7 Days**

Mile stone(s) as per table given below:-

Sl. No.	Description of milestone (Physical)	Time allowed in days (from date of start)	Amount to be withheld in case of non achievement of Mile(s) Stone
1	25% Value of the work	**7 Days**	1.25 % of tender amount
2	50% Value of the work	**15 Days**	1.25 % of tender amount
3	75% Value of the work	**23 Days**	1.25 % of tender amount
4	100% Value of the work	**One (1) Month**	1.25 % of tender amount

Time allowed for execution of work — **One (1) Month**

Authority to decide:

i) Extension of time — **AE, PCSDIII/ CPWD, Puducherry or his successor thereof**

ii) Rescheduling of mile stone — **EE, PCD/ CPWD, Puducherry or his successor thereof**

iii) Shifting of date of start in case of delay in handing over of site — **EE, PCD/ CPWD, Puducherry or his successor thereof**

PROFORMA OF SCHEDULES Clause 5 Schedule of handing over of site

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

Part	Portion of site	Description	Time Period for handing over reckoned from date of issue of letter of intent.
Part A	Portion without any hindrance	Full site	7 days
Part B	Portions with encumbrances	-	-
Part C	Portions dependent on work of other agencies	-	-

Clause 7

Gross work to be done together with net payment/ adjustment of advances for material collected , if any since the last such payment for being eligible to interim payment — **Rs. 5.76 Lakh**

Clause 7A

Whether Clause 7A shall be applicable : — **YES**

Clause 8A

Authority to decide compensation on account if contractor fails to submit completion plans — **Superintending Engineer, Puducherry Central Circle, CPWD, Puducherry or successor thereof**

Clause 10A

List of testing equipment to be provided by the Contractor at site lab. — **As per S. No. 15 of Particular Specifications & Special Conditions**

Clause 10B (ii)

Whether Clause 10B (ii) shall be applicable — **Not applicable**

Clause 10C

Component of labour expressed as percent of Value of work — **Not Applicable**

Clause 10CA : Not Applicable

Authority to issue base price of materials

Sl. No.	Material covered under this clause	Nearest Materials (other than cement* includes reinforcement bars, the structural steel and POL) for which all India	Base Price and its corresponding period of all the materials covered under clause 10 CA* **(Period: May 2020)**
1	Ordinary cement(OPC) Grade 43		**Rs.6094/- Per M.T.**
2	Steel Reinforcement TMT bars of all diameters **(TMT-Fe 500 D Grade)**		**Rs.46186/- Per M.T.**
3	Structural steel		**Rs.43517/- Per M.T.**

* **includes Cement component used in RMC brought at site from outside approved RMC plants, if any.**

** **Base price and its corresponding period of all the materials covered under clause 10 CA is to be mentioned at the time of approval of NIT. In case of recall of tenders, the base price may be modified by adopting latest base price and its corresponding period.**

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

Clause 10CC	~~**Applicable**~~**/ Not Applicable**
Schedule of component of other Materials, Labour etc. for price escalation. Component of civil (except materials covered under clause 10CA) /Electrical construction value of work. -	Xm ..... %
Component of Labour expressed as percent of total value of work.	Y ..... %

Note: Xm ..... % should be equal to (100) - materials covered under clause 10CA i.e. Cement, Steel, POL and other material specified in clause 10CA + Component of Labour)

Clause 11 Specifications to be followed for execution of work For Civil Work	**CPWD specification 2019 Vol. I to II with correction upto date of receipt of tender**
Clause 12	
Type of Work	**Original work**
Authority to decide deviation upto 1.5 times of tendered amount	**ADG, Region Chennai, CPWD, Chennai (No approval required upto 1.25 times)**
12.2 & 12.3 Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for building work	**30% (Thirty percentage)**
12.5 (i) Deviation Limit beyond which clauses 12.2& 12.3 shall apply for foundation work**(except items mentioned in earth work subhead in DSR and related items)**	**30% (Thirty percentage)**
(ii) **Deviation Limit for items in earthwork Sub head of DSR or related items**	**100% (One hundred percentage)**
Clause 16	
Competent Authority for deciding reduced rates	**SE PCC Puducherry or his successor thereof up to 5% of tender amount of civil work beyond which ADG (RC), CPWD, Chennai -90 or his successor thereof.**
Clause 18	
List of mandatory machinery, tools & plants to be deployed by the contractor at site	**As per the list mentioned S. No. 13 of Particular Specifications and Special Conditions**

Clause 19 C……authority to decide penalty for each default	**EE, PCD/ CPWD, Puducherry**
Clause 19 D……authority to decide penalty for each default	**EE, PCD/ CPWD, Puducherry**
Clause 19 G …. authority to decide penalty for each default	**EE, PCD/ CPWD, Puducherry**
Clause 19 K …. authority to decide penalty for each default	**EE, PCD/ CPWD, Puducherry**

Clause 25

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

Constitution of Dispute Redressal Committee:

Claim amount	**For all claims in dispute**
Chairman	Chairman – Chief Engineer, Chennai Zone, Chennai
Member	Member – Superintending Engineer (Works&TLQA), O/o ADG(RC), Chennai.
Member	Member – Superintending Engineer(P), O/o ADG(RC), Chennai.
	Chairman – Chief Engineer, Chennai Zone, Chennai

Note: The above constitution of Dispute Redressal Committee is subject to change, for which necessary notification shall be issued by the competent authority of the department, if required

Clause 32

Requirement of Technical Representative(s) and recovery Rate

S. No.	**Minimum qualification of Technical Representative**	**Discipline**	**Designation (Principal Technical)**	**Minimum Experience**	**Number**	**Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)**	
						Figures	**Words**
Not Applicable							

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.

Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 38

(i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of **Delhi Schedule of Rates 2018** printed by C.P.W.D.

(ii) Variations permissible on theoretical quantities:

(a)	Cement	
	For works with estimated cost put to tender not more than Rs. 25 lakh.	3% plus/minus.
	For works with estimated cost put to tender more than Rs. 25 lakh.	2% plus/minus.
(b)	Bitumen All Works.	2.5% plus & only & nil on minus side
(c)	Steel Reinforcement and structural steel sections for each diameter, section and category	2% plus/minus
(d)	All other materials.	Nil

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

7. PARTICULAR SPECIFICATIONS & SPECIAL CONDITIONS (CIVIL)

1. GENERAL

1.1. Wherever any reference to any Indian Standard Specifications of BIS or other International standards of ASTM / BS/EN occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued there-to or revisions thereof, if any, up to the date of receipt of tenders.

~~1.2. The contractor shall work according to the programme of work as approved by the Engineer-in-charge, for which purpose, the contractor shall submit a programme of the work within 15 days from the stipulated date of start of the work based on computer software such as MS Project etc. and shall update the same every fortnight.~~

~~The contractor shall submit monthly progress report of the work in a computerized form. The progress report shall contain the following, apart from whatever else may be required as specified:~~

~~1.2.1. Project information, giving the broad features of the contract of the work under the contract, and the broad structural or other details.~~

~~1.2.2. Introduction, giving a brief scope of the work under the contract, and the broad structural or other details.~~

~~1.2.3. Construction schedule of the various components of the work through a bar chart for the next three quarters (or as may be specified), showing the milestones, targeted tasks and upto date progress.~~

~~1.2.4. Progress chart of the various components of the work that are planned and achieved, for the month as well as cumulative upto the month, with reasons for deviations, if any, in a tabular format.~~

~~1.2.5. Plant and machinery statement, indicating those deployed in the work, and their working status.~~

~~1.2.6. Man-power statement, indicating individually the names of all the staff deployed in the work, along with their designations.~~

~~1.2.7. Financial statement, indicating the broad details of all the running account payments received upto date, such as gross value of work done, advances taken, recoveries effected, amounts withheld, net payments, details of cheque payments received, etc.~~

~~1.2.8. A statement showing the extra and substituted items submitted by the contractor, and the payments received against them, items pending for sanction/decision by the Department, broad details of the Bank Guarantees, indicating clearly their validity periods, broad details of the insurance policies taken by the contractor, if any, the advances received and adjusted.~~

~~1.2.9. Progress photographs, in colour, of the various items/components of the work done upto date, to indicate visually the actual progress of the work.~~

~~1.2.10. Quality assurance and quality control tests conducted during the month, with the results thereof.~~

~~1.2.11. Videography at various stages of construction right from the day of start of work to date of completion/occupation, covering all major events, inspections, visits by dignitaries etc.~~

1.3. The contractor shall take instructions from the Engineer-in-charge for stacking of materials at site. No excavated earth or building materials shall be stacked on areas where the buildings, roads, services or compound walls are to be constructed.

1.4. If as per Municipal or prevailing rules of the secured campuses owned by paramilitary forces, Institutions etc, the huts for labour are not to be erected at the site of work by the contractors, the contractors shall provide such accommodation at such locations as are acceptable to local bodies with all provisions concerning labour safety & sanitation as contained in the relevant clause of the contract, for which nothing shall be payable.

1.5. Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing shall be payable to him on this account.

1.6. The working drawings shall mean to include both architectural and structural drawings respectively. The structural and architectural drawings shall be properly correlated before executing the work. In case of any difference noticed between architectural and structural drawings, final decision, in writing of the Engineer-in-charge shall be obtained by the contractor before proceeding further.

1.7. Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restriction / instructions including issue of identity cards to all persons authorized by him to do work / visit the work site and nothing shall be payable on this account.

1.8. The contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the department concerned.

1.9. The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed, so as not to interfere with the operations of other contractors, or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Engineer-in-Charge. The contractor shall be responsible for any damage due to hindrance caused by him.

1.10. Cast iron pipes and fittings without ear shall be used. However, pipes and fittings with ears may be accepted without any extra payment. In such cases, clamps are not required and no extra payment shall be made for fixing the pipes in a different manner.

1.11. Any cement slurry added over base surface for bond or for continuation of concreting, for protecting reinforcement bars, its cost shall be deemed to have been included in the respective items, unless specified otherwise and nothing extra shall be payable nor extra cement shall be considered in the cement consumption on this account.

1.12. Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required at any stage shall have to be done by the contractor at his own cost.

1.13. No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.

1.14. Only Star headed Stainless Steel screws shall be used unless otherwise specified.

1.15. Work shall be carried out in professional manner with finished product serving the intended purpose with specified strength, durability and aesthetics.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

1.16. Work activities shall be executed in well thought out sequences such that consequent activities not adversely affecting previously done work. Nothing extra shall be payable to protect the works already done.

1.17. The contractor shall prepare all the needed shop drawings well in advance and get them approved before placing the order and execution of the item.

1.18. The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer - in -Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications.

1.19. The contractor shall not store /dump construction material or debris on metalled road.

1.20. The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic / inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

1.21. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot / area using CGI sheets or plastic and / or other similar material to ensure that no construction material dust fly outside the plot area.

1.22. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes / or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air / contaminate air.

1.23. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.

1.24. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.

1.25. The contractor shall ensure that C&D waste is transported to the C & D waste site only and due record shall be maintained by the contractor.

1.26. The contractor shall compulsory use of wet jet in grinding and stone cutting.

1.27. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.

1.28. The contractor shall carry out on-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.

1.29. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.

1.30. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.

1.31. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

1.32. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.

2. FLOORING, SKIRTING, VENEERING, DADO, TREADS & RISERS OF STEPS, JAMBS, SILLS & SOFFITS

2.1. Nothing extra shall be payable for using combination of marble, granite and kota in the required pattern at various locations unless otherwise specified.

2.2. Flooring in toilets, verandah, kitchen, courtyard and at other places if required shall be laid to the required slope/gradient as per the directions of the Engineer-in-Charge and nothing extra shall be paid on account of the same.

2.3. The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge and nothing extra shall be paid on account of the same.

3. SPECIALISED ITEMS

3.1. LIST OF SPECIALISED ITEMS

3.1.1. Water proofing treatment work

3.1.2. Steel work in steel bridge work, space frames for long span structures, steel towers.

3.1.3.Special foundations including all types of piles.

3.1.4.RCC overhead tank with independent staging.

3.1.5.Structural Repair and rehabilitation/retrofitting works.

3.1.6.Soil investigation and survey work.

3.1.7.Façade cleaning system and façade cleaning.

3.1.8.Custom made wooden furniture (factory made)

3.1.9.Diaphragm Walls.

3.1.10. Post Construction Anti Termite Chemical treatment.

3.1.11. Water Treatment Plants.

3.1.12. Security to vacant bungalows/premises.

3.1.13. Tentage Works.

3.1.14. Washing/dry cleaning works.

3.1.15. Synthetic play area surface for games.

3.1.16. Electronic/Digital signages.

3.1.17. Environment Impact Assessment Study and Environment Clearance.

3.1.18. Mechanised Housekeeping works.

3.2. PROCEDURE FOR EXECUTION OF THE SPECIALIZED ITEMS

Such items should be got executed only through associated agencies specialized in these fields. The contractor shall indicate the name(s) of his associated specialized agencies those fulfilling the conditions described in para 3.1.3 of CPWD Works Manual-2019 as early as possible and within one month of award of work to Engineer-in-Charge for approval of competent authority.

3.3. SPECIALIZED AGENCIES

3.3.1. Specialized Agencies for items in case of Civil works shall be approved by the competent authority. The contractors shall quote the rates after careful study of contract conditions, specifications, drawings & schedule of quantities.

3.3.2. It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub-contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies.

3.3.3. For specialized items, the main contractor cannot work as a specialized agency unless his name is already included in the list of approved specialized agencies for these items. The contractor shall get these items executed through the specialized agencies as approved by competent authority.

3.4. RATES

3.4.1. The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.

3.4.2. The rates quoted by the bidder, shall be firm and inclusive of all taxes and levies (including works contract tax but excluding service tax).

3.4.3. No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

3.4.4. All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site /

construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.

3.4.5. For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

3.4.6. All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

3.5. CLEANLINESS OF SITE

The Contractor shall not stack building material / malba / muck/ rubbish on the land or road of the local development authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material / malba as stated above, the Contractor shall be liable to pay the stacking charges / penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.

3.6. INSPECTION OF WORK

In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by other senior officers of CPWD in addition of the Engineer-in-Charge and his authorized representative. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-Charge or other officers as stated above to visit the works shall have been given to the Contractor, either himself be present to receive the orders and instructions or have a responsible Site Engineer duly accredited in writing, to be present for that purpose Senior Officers of CPWD Authorities shall be inspecting the on-going work at site at any time with or without prior intimation.

3.7. GUARANTEE FOR WATER PROOFING TREATMENT

The contractor shall give Ten years performance guarantee in the prescribed proforma for the water proofing treatment. In addition 10% (Ten percent) of the cost of water proofing items shall be retained as security, to watch the performance of the work executed. However, half of this amount (withheld) shall be released after five years, after the completion of the work, if no defect comes to notice. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within Seven days after serving the notice by Department and, if not attended to, the same shall be got done through other

agency at the risk and cost of the contractor. In any case the guaranteeing firms during the guarantee period shall inspect and examine the treatment once every year and make good any defect observed and Certificate to that effect shall be submitted to Department every year. However, the 10 % security deposit referred above can be replaced with bank guarantee of equivalent amount for relevant period.

4. STAINLESS STEEL RAILING/HANDRAILS:

4.1. GENERAL

The contractor shall apply all materials, labour, tools, ladders, scaffolding and other equipments necessary for the completion and protection of all stainless steel work.

4.2. MATERIAL

All stainless steel pipes and plates shall conform to AISI 304 in 18/8 composition. 18 will be chromium and 8 will be Nickel and carbon content will be 0.03 maximum and the relevant clauses associated with this grade of steel to be followed.

4.3. SURFACE FINISH

Surface finish of all the stainless steel materials will be in 240 grit satin finish / matt finish.

4.4. ACCESSORIES

Fixing will be done by stainless steel expansion bolts of approved size and make as per Engineer-in-charge and welding to be done by using organ welding rods and the surface being duly finished and cleaned by K2 passivation, which is nitric acid plus floric acid solution treatment by which the chances of corrosion will be eliminated and any burn out makes on the metal will also be eliminated.

4.5. COATING MASS

All stainless steel material will have to be coated by a solution of Inox to avoid finger in prints and avoidance of settlement of environment / atmospheric dust.

4.6. MEASUREMENT

All the stainless steel finished parts shall be weighed correct to a gram and paid on weight basis.

4.7. RATE

The rate shall include the cost of all the materials, machinery and labour involved in all the operations described above including cartage, lifts and all taxes like Sales Tax / VAT, Excise duty, Octroi etc. as applicable.

Any incidental additional requirements for execution of this item to the satisfaction of Engineer-in-Charge shall also be treated as included in the item and shown in attached drawing and nothing extra will be paid for such extra work. installation drawings for approval of the Engineer-in-charge-in-Charge and no work shall be performed until the approval of these drawings is obtained.

5. CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES / SUB- CONTRACTORS

5.1. The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general .The Contractor shall take all care, as not to damage any other adjacent

property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the Contractor at his own cost and to the entire satisfaction of the Engineer-in-Charge. The Contractor shall use such methodology and equipments for execution of the work, so as to cause minimum environmental pollution of any kind during construction. Further, the Contractor shall take all precautions to abide by the environmental related restrictions imposed by Madhya Pradesh Pollution control board, Govt. of Madhya Pradesh.

Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Bidders are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

5.2. The Contractor shall cooperate with and provide the facilities to the sub-Contractors and other agencies working at site for smooth execution of the work.

5.3. The Contractor shall :

5.3.1. Allow use of scaffolding, toilets, sheds etc.

5.3.2. Properly co-ordinate their work with the work of other Contractors.

5.3.3. Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.

5.3.4. Provide electricity and water at mutually agreed rates.

5.3.5. Provide hoist and crane facilities for lifting material at mutually agreed rates.

5.3.6. Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.

5.3.7. Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall schedule completion.

5.3.8. Resolve the disputes with other Contractors/ sub-contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.

5.4. The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, fire fighting, information technology, communication & electronics and any other services.

5.5. Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

5.6. The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-In-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co -ordination manner and shall perform it in proper sequence to the complete satisfaction of others.

6. CONSUMPTION OF PIG LEAD AND IT'S VARIATION FOR SCI SANITARY PIPES AND FITTINGS AS PER IS:3989

In order to ensure that adequate lead is poured properly into the joints and to control waste in use of lead for caulking of joints of SCI pipes and fittings, at the beginning of the work three or four sample joints shall be made and the quantum of lead per joint approved by the Engineer in charge. The actual consumption of lead should be within variation of 5% of the approved sample job. This variation includes allowances of wastage also. If the actual consumption of pig lead is less than the required consumption worked out on the above basis, the recovery on account of less use of lead shall be made from the contractor at market rate to be determined by the Engineer-in-charge, whose decision in the matter shall be final & binding.

7. FIXING OF SCI/CI PIPE

The SCI/CI pipes and G.I. pipes, wherever necessary, shall be fixed to RCC columns, beams etc. with rawl plugs, or appropriate fasteners as approved by Engineer-in-Charge, and nothing extra shall be payable on this account. GI pipes shall be wherever made to pass through wall / concrete then it shall be done using protective sleeves allround the pipes to protect it from damage, nothing extra shall be payable on this account.

8. CONDITION FOR CEMENT :-

8.1. The Contractor shall procure 43 grade Ordinary Portland cement (conforming to IS : 8112) or Portland slag cement (conforming to IS : 455) or Portland Pozzolana Cement (PPC) (Fly ash based) – conforming to IS : 1489 (Part-I) as required in the work, from reputed manufactures of cement such as ACC, Ultratech, Ambuja and J.K. Cement or from any other reputed cement Manufacturer having a production capacity not less than one million tonnes per annum as approved by ADG for that sub region.

The bidders may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the contractor proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturer, given by the bidder, fully or partially.

Supply of cement shall be taken in 50 Kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-charge and got issue in accordance with provisions of relevant BIS codes. In case test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer-in-charge to do so.

If Portland Pozzolana cement or Portland slag cement is used, suitable modification in de-shuttering time etc. shall be done if need be as per specifications and standards and as directed by Engineer – in – charge and nothing extra shall be payable on this account.

No extra payment / deduction shall be made from the payment to the contractor for using any of the above type of cement.

8.2. The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer - in - charge.

8.3. For each grade / type, cement bags shall be stored in two separate godowns, one for tested cement and the other for fresh cement (under testing) constructed by the contractor at site of work as per sketch shown in General conditions of contract for CPWD works 2020 with weather proof roofs and walls, for which no extra payment shall be made. The size of the cement godown is indicated in the sketch for guidance only. The actual size of godown shall be as per site requirements and as per the direction of the Engineer in charge and nothing extra shall be paid for the same. The decision of the Engineer-in-charge regarding the capacity required/needed will be final. However, the capacity of each godown shall not be less than 100 tonnes. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with CPWD Engineer-in-charge or his authorized representative and that of other lock with the contractor at the site of work so that the cement is issued from godown according to the daily requirement with the knowledge of both the parties. The account of daily receipt and issue of cement shall be maintained in a register in the prescribed Proforma and signed daily by the contractor or his authorized agent in token of its correctness.

8.4. The cement shall be got tested by Engineer –in –Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor / Department in the manner indicated below:-

8.4.1. By the contractor, if the results show that the cement does not conform to relevant BIS codes.

8.4.2. By the Department, if the results show that the cement conforms to relevant BIS codes.

8.4.3. All other charges of sampling, packing and transportation of sample shall also be borne by the Contractor.

8.5. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained separately for each type of cement, as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by conditions laid therein. However, for consumption lesser beyond permissible theoretical variation recovery shall be made in accordance with conditions of contract at Schedule A to F (CPWD-7), without prejudice to action for acceptance of work/item at reduced rate or rejection as the case may be. In case of excess consumption no adjustment shall be made.

8.6. Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.

9. CONDITIONS FOR REINFORCEMENT STEEL:-

(1) a) The CPWD/contractor shall procure IS marked TMT bars of various grades from the steel manufacturers or their authorized dealers (as per following selection criteria) having valid BIS license for IS: 1786-2008(Amendment-1 November 2012)

The procured steel should have following qualities:-

i. Excellent ductility, bend ability and elongation of finished product due to possible refining technology.
ii. Consumption of steel should be accurate as per design.
iii. Steel should have no brittleness problem in finished product.
iv. Steel should carry the quality of corrosion and earthquake resistance.
v. Quality steel with achievement of proper level of sulphur and phosphorus as per IS: 1786-2008.

b)Selection Criteria of steel manufacturers

The supply of reinforcement steel for all CPWD works should have following selection criteria of steel manufacturers:-

Steel producers of any capacity using itron ore / processed iron ore as the basic raw materials adopting advanced refining technologies as given under

(i) **DRI-EAF=** Direct Reduced iron – Electric arc furnace**. or**

(ii) **BF-BOF =** Blast furnace – Basic oxygen furnace **or**

(iii) **COREX-BOF = COREX-**Basic oxygen furnace

For production of liquid steel to finish product at single /multiple locations with NABL or any other similarly placed accrediting Government body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IES 17025 conforming to IS:1786-2008 (Amendment-1 November 2012).

The check list for incorporation any quality steel producer is enclosed for technical assessment is given in Annexure-1.

Chief Engineer CSQ (Civil) unit, Directorate of CPWD shall approve the steel manufacturers.

2) The contractor shall have to obtain and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.

(3) Samples shall also be taken and got tested by the Engineer-in-charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week's time of written orders from the Engineer-in-charge to do so.

(4) The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more or as decided by the Engineer-in-Charge.

(5) The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

(6) For checking nominal mass, tensile strength, bend test, re-bend test, etc., specimen of sufficient length shall be cut from each size of the bar at random, and at frequency not less than that specified below:-

Size of bar	**For consignment below 100 tonnes**	**For consignment above 100 tonnes**
Under 10mm dia bars	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
10 mm to 16mm dia bars	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Over 16 mm dia bars	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

(7) The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. **The cost of tests shall be borne by the contractor.**

(8) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations, recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment needs to be made.

(9) The steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-Charge.

(Modification is made vide circulars DG/CPWD Works Manual/350 dt.29.06.2017 and 356 dated 11.09.2017)

Annexure – I

Special Condition for Steel

(Reference para 27.2)

Sl.No.	**Item**	**Checklist**	**Remark**
1	Steel producer having manufacturing facilities at plant	a. Factory address and Registration No.	
		b. Certificate of manufacturing process	
		C1 BE-BOF route	
		C2 Corex – BOX route	
		C3 DRI – EAF route	
		With documentary evidence either for BOF or EAF	
		d. Steel plant having infrastructure for producing sponge iron, billete and TMT Rebars	
		e. Production and quality Flow Chart	
		f. Plant Evaluation and Process Verification	

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		g. List of Plant & Machinery	
2.	Established	Document Verification for :	
		a. Govt. / PSU Approvals	
		b. Supply orders of TMT Re-bars in Govt. Projects (Minimum-5 years)	
		c. Verification of direct supply orders to any State / Central Govt. Department	
		d. User Certificate issued by any Govt. Department directly	
3.	Indigenous	Documentary evidence like;	
		a. Certificate of Incorporation	
		b. Memorandum of Articles of Association	
		c. Credit rating of the company from CARE/CRISIL/ICRA should not be C/D grade (minimum last 3 year)	
		a. Test result from Govt./NABL accredited laboratories.	
		b. In –house testing facility for physical/chemical tests (NABL accredicated)	
4	Reliable	d. Calibbration Certificate	
		e. List of Lab Equipments:	
		e 1 spectrometer	
		e 2 computerized UTM	
5	Use of iron-ore/processes iron are as basic raw	Verification of iron-ore/process iron ore invoices	
6	In house rolling facility	Plant verification to identify in house rolling facility, production of liquid steel 7 crude steel	
7	Licenses & certificates	a. ISO 9001-2008 certification b. ISO 14001-2004 Certificate c. OHSAS 18001-2007 certificate d. IS 1786-2008(TMT Re bars) e. IS 2830-1992 (Billets)	
8	Product range	TMT Re bars FE 415/4150/500/5000/683/683D	
		CRS (corrosion resistant) & EQR (Earthquake resistant) TMT – Re bars	

Note : DRI – EAF - > Direct Reduce iron – Electric ARC furnace

BF – BOF -> Blast Furnace – Basic Oxygen Furnace

COREX – BOF -> COREX Furnace – Basic Furnace

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

For the purpose of payment, the actual weight of reinforcement steel shall be worked out as below:

To arrive at unit weight for the purpose of payment three random samples each of 1meter length shall be collected for each diameter of re-bar from every consignment received at site. Actual weight of three specimens for each diameter shall be taken and average weight calculated and recorded. The average weight so arrived at shall be compared with theoretical weight of that particular diameter of rebar. Actual or theoretical weight whichever is less shall be considered for making payment for that consignment. However final payment shall be made on the basis of weighted average of all the consignment. The decision of the Engineer-in-charge as regards the random samples and average weight shall be final and binding on the contractor and no claim of any kind shall be entertained in this regard.

10. SPECIAL CONDITION FOR STRUCTURAL STEEL (TEE, ANGLE, CHANNEL, STRUCTURAL TUBES AND PLATES & R.S. JOIST)

10.1. The contractor shall procure Structural steel (Tee, Angle, Channel, Structural Tubes and plates & R.S. joist) from primary producers (SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd. and JSW steel Ltd.).

In case of non availability of structural steel from primary producers the NIT approving authority may permit use of structural steel procured from steel producers having valid BIS license confirming to IS -2062-2006.

10.2. Samples shall be taken and got tested by the Engineer-in-charge confirming to relevant BIS code. In case the test results indicate that the structural steel arranged by the contractor does not conform to the specification, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week's time or written orders from the Engineer-in-charge to do so.

10.3. The structural steel shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account.

10.4. The contractor shall supply free of charge the structural steel sample required for testing including its transportation to testing laboratories . The cost of test shall be borne by the department if it confirm to relevant BIS code else the testing charges shall be borne by the contractor.

10.5. The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

10.6. In case contractor is permitted to use structural steel other than above mentioned make as in 10.1 then:

10.6.1. Base Price of Structural Steel as stipulated under Schedule 'F' shall be reduced by 3500/-MT However, for operation of provision of clause 10CA in such case the indices for structural steel will be considered same as indicated in Indices issued by DG.CPWD for primary producer.

10.6.2. The quoted rate of relevant item of tender of structural steel work shall be reduced by 4.00 per Kg.

10.7. If the actual weight of structural steel to be used in the work differs from standard weight, the following procedure shall be followed for arriving at the quantity for payment.

10.7.1. If the actual weight is more than standard weight only standard weight shall be considered for payment.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

10.7.2. If the actual weight is less than standard weight but within the permissible vitiation, only actual weight shall be considered for payment.

11. REINFORCED CEMENT CONCRETE WORK

11.1. DESIGN MIX CONCRETE

11.1.1. The RCC work shall be done with Design Mix Concrete unless otherwise specified. In the nomenclature of items wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. For the nominal mix in RCC, CPWD Specifications shall be followed. The Design Mix Concrete will be designed based on the principles given in IS: 456-2000. The contractor shall design mixes for each grade of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. In case of use of admixture and or white cement, the mix shall be designed with these ingredients as well.

11.1.2. The concrete mix design will be carried out by the contractor through one of the following laboratories / Test houses and ready mix concrete shall conform to accepted design mix. a) IIT Chennai. b) Pondicherry Engineering College, Puducherry or any other Government institution as approved by Engineer-in-charge.

11.1.3. In the event of all the above laboratories being unable to carry out the requisite design / testing the contractor shall have to get the same done from any other laboratory with prior approval of the Engineer-in-Charge.

11.1.4. The contractor shall submit the mix design report from any of above approved laboratories for approval of Engineer-in-Charge within 45 days from the date of issue of letter of acceptance of the tender.

11.1.5. In case of white Portland cement and the likely use of admixtures where CC/RCC is done with concrete pumps in concrete with ordinary Portland/white Portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and /or admixtures also, for which nothing extra shall be payable.

11.1.6. Each time when there is change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised mix design shall be done and approval obtained from the approved Laboratory or as per the direction of the Engineer-in-Charge. Preferably only single source of cement shall be kept for the work. In case contractor decides to use more than one source of approved cement brand then for each brand separate design mix shall be done and got approved by Engineer-in-charge.

11.1.7. The Mix shall be designed to produce the grade of concrete having required workability and characteristic strength not less than as specified.

11.1.8. The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65\ S$

Where,

F_{ck} = Characteristic compressive strength at 28 days.

S= Standard deviation

The standard deviation for each grade of concrete shall be calculated separately.

The degree of quality control for this work is “Good” for which the standard deviation (s) obtained for different grades of concrete shall be as follows:-

Grade of Concrete	For “Good” quality of control
M 20	4.0

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

M 25	4.0
M 30	5.0
M 35	5.0

11.1.9. Out of the six specimen of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength likely to be attained at 28 days. All cost of mix designing and testing connected therewith including charges payable to laboratory shall be borne by the Contractor.

11.1.10. The samples of cement, aggregate (fine & coarse) to be sent to the laboratories shall be sealed in the presence of the Engineer- in -Charge and shall have his signature and cost of packaging, sealing, transportation, loading, unloading, cost of samples and the testing charges for Mix design in all cases shall be borne by the contractor.

11.1.11. Notwithstanding the approval granted by Engineer-in-Charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.

11.1.12. The Engineer-in-Charge reserves the right to exercise control over the ingredients, water and admixtures, purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials fit or unfit for use in production of mix.

11.1.13. The Contractor shall submit the test data of the material used for concrete mix-design in the laboratories, so the material being used at site can be compared with those data / size etc.

11.1.14. In case of change of parameters of ingredients (sand, cement, coarse aggregate) fresh concrete mix-design to be done as mentioned in paras 11.1.1, 11.1.2 & 11.1.6 to 11.1.10 above and got approved from the Engineer-in-Charge before execution.

11.1.15. The contractor shall make arrangement to install a mini laboratory at site for accelerated testing of design mix concrete as per IS : 9013. The department reserves right to take samples of design mix concrete from the mass production of the concrete for testing and compare with the laboratory's results.

11.1.16. Nothing shall be paid extra for installation and cost of batching plant and other arrangement for making necessary test of design mix concrete.

11.1.17. The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery T & P etc. (except shuttering which will be measured & paid for separately) required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like aggregates and admixtures as per the approved mix design.

11.1.18. Concrete shall be handled from the place of mixing to the place of final deposit / placement by methods, which prevent segregation, or loss of any ingredients and contamination.

11.1.19. Where concrete is conveyed by chutes, the chute shall be made of metal or fitted with metal lining. The approval of the Engineer-in-charge shall be obtained for the use of chutes in excess of 3 metres length and in such cases the concrete shall be remixed if so required by the Engineer-in-Charge or closed bottom buckets shall be used. If concrete is placed by pumping, the conduit shall be primed properly. Once pumping is

started, it shall not be interrupted as far as possible. Concrete shall not be dropped into place from a height more than 1.5m.

11.1.20. Concreting of any portion of the work shall be done in presence of the representative of the Engineer-in-Charge and shall be done only after approval of the Engineer-in-Charge.

11.1.21. Concreting shall be carried out continuously between constructions joints shown on the drawings or as agreed by the Engineer-in-Charge. The contractor shall closely follow the sequence of concreting where it is specified in the drawings. If concreting is interrupted before reaching the predetermined joint an approved construction joint shall be provided. Construction joints shall be minimized as far as possible. These shall be set at right angles to the general direction of the member. The surface film of the first placed concrete should preferably be removed while the concrete is still green to expose the aggregate and leave a sound irregular surface. However care shall be taken not to disturb the concrete already laid.

11.1.22. Admixtures: Wherever required, admixtures of approved quality only shall be mixed with concrete as specified. The admixtures shall conform to IS: 9103. The chloride content in the admixture shall satisfy the requirements of BS: 5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS 456-2000.

11.1.23. Use of ready mixed concrete (RMC) may also be permitted, with prior approval of Engineer –in – Charge, without any extra payment. Separate account of design mix concrete and RMC shall however be kept. The ready mixed concrete shall conform to the requirement of durability, workability and strength as laid down for design mix concrete.

11.2. USE OF FLY ASH AND FLY ASH BLENDED CEMENTS IN RCC STRUCTURES

11.2.1. General

11.2.1.1. IS : 456-2000 Code of Practice for plain and Reinforced Concrete (as amended up to date) shall be followed in regard to Concrete mix Proportion and its production as under :-

11.2.1.1.1. The concrete mix design shall be done as “Design Mix Concrete” as prescribed in clause – 9 of IS 456 mentioned above.

11.2.1.1.2. Concrete shall be manufactured in accordance with clause 10 of above mentioned IS : 456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.

11.2.1.2. Minimum M25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structure.

11.2.1.3. The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of flyash mixed concrete or concrete using flyash blended cements (PPCs) should not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC. Fly ash when used in the production of concrete shall be strictly in conformity with IS : 3812 (Para 1 & 10).

11.2.1.4. To control higher rate of carbonation in early ages of concrete both in flyash admixed as well as PPC based concrete, water / binder ratio shall be kept as low

as possible, which shall be closely monitored during concrete manufacture. If necessitated due to low water / binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS:9103. The compatibility of chemical admixtures and supper plasticizers with each set OPC, fly ash and / or PPC received from different sources shall be ensured by trials.

11.2.1.5. In environment subjected to aggressive chloride or sulphate attack in particular, use of flyash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, flyash substitution / content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water / binder ratio also need to be given due consideration in such environment.

11.2.1.6. Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot and arid regions, the minimum curing period shall be 14 days or its equivalent.

11.2.2. Use of Fly ash Admixed Cement Concrete (FACC) in RCC Structures :- There shall be no bar on use of FACC in RCC structures subject to following additional conditions :-

11.2.2.1. Fly ash shall have its chemical characteristics and physical requirements etc. conforming to IS:3812 (Part-10) and shall be duly certified.

11.2.2.2. To ensure uniform blending of fly ash with cement in conformity with IS:456, a specific facility needs to be created at site with complete computerized automated process control to achieve design quality or with similar facility from Ready Mix concrete (RMC) plants.

11.2.2.3. As per IS:1489 (Part-I), Maximum 35% of OPC by mass is permitted to be substituted with fly ash conforming to IS : 3812 (Part-I)and same is reiterated.

11.2.2.4. Separate storage for dry fly ash shall be provided. Storage bins or silos shall be weather proof and permit a free flow and efficient discharge of flysh. The filter or dust control system provided in the bins or silos shall be of sufficient size to allow delivery of fly ash maintained at specified pressure to prevent undue emission of fly ash dust, which may interfere weighing accuracy.

11.2.3. Use of Fly Ash Blended Cements in Cement Concrete (PPCC) in RCC structures

11.2.3.1. Subject to General Guidelines detailed out as above, PPC manufactured conforming to IS : 1489 (Part-I) shall be treated at par with OPC for manufacture of Design Mix Concrete for structural use in RCC.

11.2.3.2. Till the time, BIS makes it mandatory to print the %age of flyash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be insisted upon before allowing use of such cements in works.

11.2.3.3. While using PPC for structural concrete work, no further admixing of fly ash shall be permitted.

11.3. FORMWORK FOR EXPOSED CONCRETE SURFACES

11.3.1. Where it is specifically shown on the drawings to have original fair face finish of concrete surface without any rendering of plastering, formwork shall be carried Out by using plywood on steel plates of approved quality.

11.3.2. The forms shall be constructed so as to produce a uniform and consistent texture and pattern on the face of the concrete. The formwork shall be placed so that all

horizontals are constructed of lumber and are not paneled and the formwork joints shall be staggered.

11.3.3. To achieve a finish which shall be free of board marks, the formwork shall be faced with plywood or equivalent material in large sheets. The sheets shall be arranged in an approved pattern. Whenever possible, joints between sheets shall be arranged to coincide with architectural feature, sills, window heads or change in direction of surface. All joints between panels shall be vertical or horizontal unless otherwise directed. Suitable joints shall be approved between sheets. The joints shall be arranged and fitted so that no blemish or mark is imparted to the finished surfaces.

11.3.4. Forms for exposed concrete surfaces shall be constructed with grade strips (the underside of which indicate top of pour) at horizontal constructions joints, unless the use of groove strips is specified on the drawings. The reset forms shall be tightened against the concrete so that the forms will not be spread and permit abrupt irregularities or loss of mortar. Supplementary form ties shall be used as necessary to hold the reset forms tight against the concrete.

11.3.5. For fair faced concrete, the position of through bolts will be restricted and generally as indicated on the drawings.

11.3.6. Plywood and steel plates used in the formwork for obtaining exposed surfaces shall be got approved from Engineer-in-Charge on each use. However no forms will be allowed for reuse if it is doubtful to produce desired texture of exposed concrete.

11.3.7. Cement of only approved shade shall be used preferably of single lot to achieve integrity of texture.

11.4. CLASS OF SURFACE FINISH

11.4.1. For Beams & Slabs :

The finish shall be uniform, dense and smooth. no grout, no grain pattern, no crazing and no major blemishes shall be permitted. Abrupt irregularities not exceeding 3mm and gradual irregularities less than 5mm in 2m length only shall be permitted.

11.4.2. For Columns/Wall/Fins :

The finish shall be uniform and smooth leveling the surface of the compacted concrete shall be done with a screed board with power floating the surface and over that steel trowelling the surface under firm pressure characteristics of finish shall be brush marks < 3mm gradual irregularities less than 10mm in 2m.

11.5. TOLERANCE IN FINISHED CONCRETE

The formwork shall be so made as to produce a finished concrete true to shape, lines, level, plumb and dimensions as shown in the drawings subject to the following tolerance unless otherwise specified in this specification or drawings.

11.5.1. Wall/Column/Fins:

i	Variation from the plumb	± 6mm	Upto 3m height
ii	Variation from the plumb of conspicuous liner	± 6mm	Upto 6m height
iii	Variation in the size of wall openings	(+)15mm (-) 6mm	
iv	Variation in parapet wall thickness Upto 30cm thickness	± 6mm	

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

Slab, Beam & Girder Forms:

Variation from the level or from the specified grid for beam soffit before removal of shores,

(a) In any 3m ± 6mm

(b) In any 6m ± 10mm

All the tolerances mentioned above shall apply to concrete dimensions only, and not to positioning of vertical steel or dowels. The tolerances given above are specified for local aberration in the finished concrete surface and should not be taken as tolerance for the entire structure taken as whole for the setting and alignment of formwork. Any error, within the above tolerance limits, or any other if noticed in any of the structure after part or portion stripping of forms, shall be corrected in the subsequent work to bring back the structure to its true line, level and alignment.

11.6. Ultrasonic pulse velocity method test for RCC as per technical circular No. 18 issued vide CE(CSQ) letter No. G-2/SE(QA)/CSQ/69 dated 12.02.2013 shall be carried out as a routine test to assess the homogeneity and uniformity of concrete. The fulfilling criteria and other conditions shall be as detailed, as per the method stated in the aforesaid circular.

12. PARTICULAR SPECIFICATIONS FOR AAC BLOCK MASONRY

12.1. The AAC Blocks shall be procured from approved manufacturers.

12.2. The blocks shall be stored at site in stacks on a level dry surface.

12.3. The mortar used for joining the blocks shall be mixed in the proportion 1:4 (1 Cement : 4 coarse sand) by volume.

12.4. The thickness of joints in the masonry shall not exceed 10 mm and shall be of uniform thickness.

12.5. Maximum height of wall built on any day shall not be more than 1.2 metres (i.e. 6 layers).

12.6. The joints in the masonry shall be recessed and no flush pointing shall be done.

12.7. A slip membrane with PVC sheet shall be introduced as per the recommendation of blocks manufacturer before laying the first course on the plinth beam.

12.8. The blocks shall not be soaked in water and instead they shall be dipped in water and taken out immediately to have only moist surface.

12.9. The vertical joints of the masonry shall be broken to have a minimum overlap of 100 mm.

12.10. Bed joint 2 Nos. 6mm dia reinforcement bars may be placed in the joints after every 3rd course in two successive layers as per the recommendation of the manufacturers to have good lateral stability.

12.11. It shall be ensured that the lintels are rest at either end of window opening only on full block and not on half or part blocks reinforcement shall be placed in the sill course of window openings in two successive horizontal joints and extend the same at least to 600 mm on either side of the jamb surface.

12.12. At a RCC column interface an MS anchor ("L" shape) may be placed and fixed with screws at every 4th course so as to anchor the wall with RCC column for better lateral stability. The anchor shall be got approved from Engineer-in-Charge.

12.13. Curing of the masonry shall be done only by spraying water and no flooding shall be done by water jets / buckets.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

12.14. The chases in the wall surface for electrical conduits shall be done only by means of electrically operated saw to cut two parallel lines and the portion between the cuts shall be chiseled carefully. The depth of vertical chases should be limited to 1/3 rd of wall thickness and horizontal chases should not be more than 1/6th of wall thickness. The chases have to be properly packed with cement mortar 1:4 (1 cement : 4 sand) between pipes and chases.

12.15. The blocks shall be cut using a carpenter saw to have half blocks or any other suitable size block to close the masonry course or to break the vertical joint from the bottom course. Hammer or a masons trowel shall not be used to cut the blocks.

12.16. GI wire mesh shall be fixed on all column wall and beams- wall junctions before taking up the plaster work.

12.17. The rates of the item include all the elements described above.

13. EQUIPMENTS AND PLANTS (Refer Clause 18 of Schedule 'F')

13.1. The contractor has to deploy necessary tools & plants in required numbers to ensure smooth & timely execution of work, at his own cost & risk as per the requirement of work at different stages. The decision of Engineer-in-Charge shall be final regarding use of particular T&P(s) at a particular time(s) & the contractor has to adhere to the same strictly. The following description & quantum of T&P is given for general guidance which is not mandatory. However, the successful contractor shall give a list of tools and plants which he proposes to deploy to ensure smooth and timely execution as per different milestone fixed and timely completion of work while submitting the programme and progress chart.

I.	Fully Automatic Batching Plant (15.00 cum)	1 No.
II.	Steel Centring and shuttering	3000 sqm
III.	Excavator Cum Loader.	2 No.
IV.	Concrete mixer with hopper.	3 Nos.
V.	Plate Vibrator.	2 No.
VI.	Needle Vibrator.	5 Nos.
VII.	Bar Bending Machine.	1 No.
VIII	Bar Cutting Machine.	1 No.
IX	Compressor 5 cmm.	2 No.
X	Earth compactor 2 T	2 No.
XI	Floor grinding machine	4 Nos.
XII	Welding machine	2 No.
XIII	DG Set(63 KVA)	2 No.
XIV	Grinder, Drilling machine etc.	2 Nos.
XV	Water Pump	3 Nos.
XVI	Chase cutter	2 Nos.
XVII	Concrete Pump	1 No.

13.2. To achieve the program of work as per programme the contractor must bring at site the required shuttering materials required for cement concrete and RCC work etc. within 30 days from the date of start of work. All other equipments shall be brought, installed and

commissioned at site of work at least one week before their actual planned use at site. Work shop facilities for fabrication/addition and alterations, and other allied works shall be arranged by the contractor at his own cost.

13.3. The list of equipment/T&P/machinery as per para 11.1 is for general guidance. In addition to these, machinery / equipment as required shall be arranged by the contractor in case the requirement at any stage exceeds as per the programme finalized at his own cost and nothing extra whatsoever on this account shall be paid. This include equipment for arrangement of concrete from RMC producing plants also.

13.4. All the equipment, T&P and machinery shall be kept in good condition.

14. SAFETY MEASURES AT CONSTRUCTION SITE

In order to ensure safe construction, following shall be adhered for strict compliance at the site:-

14.1. The work site shall be properly barricaded.

14.2. Adequate signages indicating 'Work in Progress – Inconvenience caused is Regretted' or Diversion Signs shall be put on the sites conspicuously visible to the public even during night hours. These are extremely essential where works are carried out at public places in use by the public.

14.3. The construction malba at site shall be regularly removed on daily basis.

14.4. All field officials and the workers must be provided with safety helmets, safety shoes and safety belts.

14.5. Proper MS pipe scaffoldings with work – platforms and easy-access ladders shall be provided at site to avoid accidents.

14.6. Necessary First-Aid kit shall be available at the site.

The above provisions shall be followed in addition to the provisions of General Condition of Contract.

15. LIST OF EQUIPMENT FOR SITE LABORATORY TO BE MADE AVAILABLE BY THE CONTRACTOR AT HIS OWN COST (Refer Clause 10 A of Schedule 'F')

15.1. LABORATORY TESTING INSTRUMENTS

15.1.1. Balances

15.1.1.1. 7 Kg. to 10 Kg. capacity, semi-self indicating type – accuracy 10 gm.-1 No.

15.1.1.2. 500 gm. Capacity, semi-self indicating type – accuracy 1 gm.- 1 No.

15.1.1.3. Pan balance – 5 Kg. capacity – accuracy 10 gms.-1 No.

15.1.2. Ovens–electrically operated, thermostatically controlled upto 1100 C–sensitivity 10 C. – 1 No.

15.1.3. Sieves : as per IS 460 – 1962.

15.1.3.1. I.S. sieves – 450 mm internal dia, of sizes 100mm, 80 mm, 63 mm, 50mm, 40 mm, 25mm, 20 mm, 12.5 mm, 10 mm, 6.3mm, 4.75 mm, 2.36mm complete with lid and pan. – 1 Set

15.1.3.2. I.S. sieves - 200 mm internal dia (brass frame) consisting of 2.36 mm, 1.18 mm, 600 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan. – 1 Set

15.1.4. Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly - 1 No.

15.1.5. Equipment for slump test–slump cone, steel plate, tamping rod, steel scale, scoop- 2sets

15.1.6. Dial gauges, 25 mm travel – 0.01 mm / division least count – 2 Nos.

15.1.7. 100 tones compression testing machine, electrical cum manually operated. – 1 No.

15.1.8. Graduated measuring cylinders 200 ml capacity – 6 Nos.

15.1.9. Enamel trays (for efflorescence test for bricks).

15.1.9.1. 300 mm X 250 mm X 40 mm – 2 Nos. 10 Set

15.1.9.2. Circular plates of 2850 mm dia – 4 Nos.

15.2. FIELD TESTING INSTRUMENTS

Following instruments in sufficient quantity as directed by the Engineer- in- Charge shall be made available by the contractor. It shall be ensured that the instruments always remain in serviceable condition else the same will be replaced.

15.2.1. Steel tapes – 3 m.

15.2.2. Vernier Calipers.

15.2.3. Micrometer screw 25 mm gauge.

15.2.4. A good quality plumb bob.

15.2.5. Spirit level, minimum 30 cms long with 3 bubbles for horizontal vertical.

15.2.6. Wire gauge (circular type) disc.

15.2.7. Foot rule.

15.2.8. Long nylon thread.

15.2.9. Rebound hammer for testing concrete

15.2.10. Dynamic penetrometer.

15.2.11. Magnifying glass

15.2.12. Screw driver 30 cms long

15.2.13. Ball pin hammer, 100 gms.

15.2.14. Plastic bags for taking samples

15.2.15. Moisture meter for timber

15.2.16. Earth resistance tests (for Electrical Divisions)

15.2.17. Meggar (for Electrical Divisions)

~~15.2.18. Total station~~

16. SPECIFICATIONS FOR FLY ASH BRICKS

All fly ash bricks as brought to the site shall conform to the strength & durability parameters as prescribed in the tender and CPWD specifications.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

~~**17.** The contractor shall submit 'Method Statement' for the approval soon after the award of work. 'Method Statement' is a statement by which the construction procedures for important activities of construction are stated, checked and approved. Method Statement shall have description of the item with elaborate procedures in steps to implement the same. The specification of the materials involved their testing and acceptance criteria, equipments to be used, precautions to be taken, mode of measurements etc.~~

18. TESTING OF MATERIALS.

18.1. The contractor shall arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including fee for testing unless specified otherwise. In all cases cost of samples and to & fro carriage shall be borne by the contractor. Contractor shall establish a laboratory at site of work at his own cost. The laboratory shall be equipped with all necessary equipment as per requirement of specification or as per direction of Engineer-in-Charge. A list of laboratory equipments to be maintained by the contractor is enclosed at para 13 page 47 & 48. Establishing the laboratory at site shall not absolve the contractor from fulfilling the criteria of getting the test done in independent approved laboratories as per DG/MAN/308. The decision of the Engineer-in-Charge of allowing any test in the site laboratory shall be final.

18.2. Even ISI marked materials may be subjected to quality test at the discretion of the Engineer-in-charge besides testing of other materials as per the specifications described for the item/material. Whenever ISI marked materials are brought to the site of work the contractor shall, if required by the Engineer-in-charge, furnish manufacturer test certificate or test certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfy the provisions if IS codes relevant to the material and/or the work done.

18.3. Sub-standard Material/Work : In case any material/work is found substandard the same shall be rejected by the Engineer-in-Charge and the same shall be removed from the site of work within 48 hour, failing which the same shall be got removed by the Engineer-in-Charge at the risk and cost of the contractor without giving any further notice and time.

19. CONDITIONS OF CONTRACT SPECIFIC TO GREEN BUILDING PRACTICES

The contractor shall strictly adhere to the following conditions as part of his contractual obligations:

19.1. SITE

19.1.1. The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction .The contractor shall prepare and implement the Erosion and Sedimentation Control Plan (ESCP) provided to him after approval by the Engineer- in- Charge as part of the larger Construction Management Plan(CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan(ESCP) Guidelines if required from the Engineer in Charge and then prepare "working plan" for the following month's activities as a CAD drawing showing the construction management, staging & ESCP. At no time soil should be allowed to erode away from the site and sediments should be trapped where necessary.

The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractor shall take the clearance of the Engineer in Charge before any excavation. Top soil should be stripped to a depth of 20 cm (centimeters) from the areas to be disturbed, for example

proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention and shall be reapplied to site during plantation of the proposed vegetation or as directed by the engineer in charge. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (millimetre) diameter. The stored top soil may be used as finished grade for planting areas.

19.1.2. The Contractor should follow the construction plan as proposed by the Architect / Engineer in Charge to minimize the site disturbance such as soil pollution due to spilling. If required use of staging and spill prevention and control plan to restrict the Spilling of the contaminating material on site needs to be resorted. Protection of top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc., may also be directed by the engineer in charge.

19.1.3. No excavated earth shall be removed from the campus unless suggested otherwise by Engineer in Charge. All subsoil shall be reused in backfilling/landscape, etc as per the instructions of the Engineer in Charge. The surplus excavated earth shall be disposed of by the contractor as per the direction of the engineer in charge at his own cost for reuse. A certificate of reuse as required by the Engineer-in-Charge shall be submitted by the contractor.

19.1.4. The contractor shall not change the natural gradient of the ground unless specifically instructed by the Engineer in Charge. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Engineer-in-Charge.

19.1.5. The contractor shall not carry out any work which results in the blockage of natural drainage.

19.1.6. The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the Engineer-in-Charge.

19.1.7. Contractor shall reduce pollution and land development impacts from automobiles use during construction.

19.1.8. Overloading of trucks is unlawful and creates the erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering shall be used by the contractor. Also, no overloading shall be permitted.

19.2. CONSTRUCTION PHASE AND WORKER FACILITIES

19.2.1. The contractor shall specify and limit construction activity in pre¬-planned/designated areas and shall start construction work after securing the approval for the same from the Engineer in Charge. This shall include areas of construction, storage of materials, and material and personnel movement.

19.2.2. Preserve and Protect Landscape during Construction

19.2.2.1. The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots. These shall be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash and protected

from oil, paint, and other materials detrimental to plant health. These activities shall be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not at all permitted.

19.2.2.2. The contractor shall take steps to protect trees or saplings if any identified for preservation within the construction site using tree guards of approved specification.

19.2.2.3. Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) approved by Engineer in Charge.

19.2.2.4. The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. The zones of movement of heavy equipment, parking, or excessive foot traffic shall be separated from the fenced plant protection zones.

19.2.2.5. The contractor shall ensure that maintenance activities during construction period shall be performed as needed to ensure that the vegetation remains healthy.

19.2.3. Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators, if required, and adopt a construction waste management plan to achieve these goals. A project wide policy of "Nothing leaves the Site" shall be followed. The Contractor's ingenuity is especially called towards meeting this prerequisite/ credit (as per IGBC LEED India, New Construction v1.0 & GRIHA , MNRE) and may consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation, designating a specific area(s) on the construction site for segregated or commingled collection of recyclable material, and track recycling efforts throughout the construction process, identifying construction haulers and recyclers to handle the designated materials at his cost. The diversion may include donation of materials to charitable organizations and salvage of materials on-site.

19.2.4. Contractor shall collect all construction waste generated on site. He may consider at segregating wastes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.

19.2.5. The contractor shall provide potable water and other amenities for all workers as per the contract.

19.2.6. The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site as described in CPWD General Conditions of contract. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable provisions. Adequate toilet facilities shall be provided for the workmen within easy access of their place of work. The total no. to be provided shall not be less than 1per 30 employees in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every

toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided and natural or artificial illumination shall also be provided.

19.2.7. The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall also ensure the following activities to prevent air pollution during construction:

19.2.7.1. Clear vegetation only from areas where work will start right away

19.2.7.2. Vegetate / mulch areas where vehicles do not ply.

19.2.7.3. Apply gravel / landscaping rock to the areas where mulching / paving is impractical

19.2.7.4. Identify roads on-site if applicable that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base and add surface gravel to reduce source of dust emission to limit amount of fine particles (smaller than 0.075mm) to 10 – 20%

19.2.7.5. Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged.

19.2.7.6. Water spraying shall be done on:

Any dusty materials before transferring, loading and unloading

Area where demolition work is being carried out

Any un-paved main haul road

Areas where excavation or earth moving activities are to be carried out

19.2.7.7. The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.

19.2.7.8. All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.

19.2.7.9. Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas

19.2.7.10. Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area at his cost.

19.2.7.11. Provide dust screens, sheeting or netting to scaffold along the perimeter of the building at his cost

19.2.7.12. Cover stockpiles of dusty material with impervious sheeting at his cost.

19.2.7.13. Cover dusty load on vehicles by impervious sheeting before they leave the site at his cost.

19.2.8. Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program.

19.2.9. The contractor shall ensure that no construction leachate (e.g. cement slurry etc.), is allowed to percolate into the ground. Adequate precautions will be taken to safeguard against this including reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).

19.2.10. Staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.

19.2.11. The contractor shall comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 Constructional practices and safety, 2005, National Building code of India, Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to causalities. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.

19.2.12. The contractor shall ensure the following activities for construction workers safety, among other measures at his cost.

19.2.12.1. Guarding all parts of dangerous machinery.

19.2.12.2. Precautionary signs for working on machinery.

19.2.12.3. Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.

19.2.12.4. Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.

19.2.12.5. Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.

19.2.12.6. Provide protective equipment; helmets etc.

19.2.12.7. Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.

19.2.12.8. Provide sufficient and suitable light for working during night time.

19.2.13. The storage of material shall be as per standard good practices as specified in Part 7, Section 2 - Storage, Stacking and Handling practices, NBC 2005 and shall be to the satisfaction of the Engineer in Charge to ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipments with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipments at different stages of construction shall be considered.

19.2.14. The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilization of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labelled in both Hindi and English with suitable symbols.

19.2.15. The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.

19.2.15.1. Contractor shall collect & submit the relevant material certificates for materials if directed by the Engineer in charge with high recycled (both post-industrial and post-consumer) content, including materials like RMC mix with fly-ash, glass with recycled content, calcium silicate boards etc.

19.2.16. Contractor shall collect the relevant material certificates for rapidly renewable materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat board, strawboard and cork etc.

19.2.17. Where possible, the contractor shall select materials / vendors, harvested and manufactured regionally, within a 800-km radius of the project site.

19.2.18. Contractor shall adopt an IAQ (Indoor Air Quality) management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. He shall sequence installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. He shall also protect stored on-site or installed absorptive materials from moisture damage.

19.2.19. The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. his shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.

19.2.20. Contractor shall make efforts to reduce the quantity of indoor air contaminants that are odorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (Volatile Organic Compounds) content of paints, coatings and primers used must not exceed the VOC content limits mentioned below in case items of such paints are/is available in schedule of quantities.

19.2.20.1. Paints

Non-flat - 150 g/L , Flat (Mat) - 50, g/L ,Anti corrosive/ anti rust - 250 g/L

19.2.20.2. Coatings / Clear wood finishes

Varnish - 350 g/L , Lacquer - 550 g/L, Floor coatings - 100 g/L, Stains - 250 g/L

19.2.20.3. Sealers

Waterproofing sealer - 250 g/L, Sanding sealer - 275 g/L, Other sealers - 200 g/L

19.2.21. The VOC (Volatile Organic Compounds) content of adhesives and sealants used if prescribed in the schedule of quantities must be less than VOC content limits mentioned: Architectural Applications VOC Limit (g/l less water)Indoor Carpet adhesives - 50 g/L, Carpet Pad Adhesives - 50 g/L, Wood Flooring Adhesive - 100 g/L, Rubber Floor Adhesives - 60 g/L, Sub Floor Adhesives – 50 g/L, Ceramic Tile Adhesives - 65 g/L, VCT and Asphalt Tile adhesives - 50 g/L, Dry Wall and Panel Adhesives - 50 g/L, Structural Glazing Adhesives - 100 g/L, Multipurpose Construction Adhesives – 70 g/L, Substrate Specific Application VOC Limit (g/l less water), Metal to Metal - 30 g/L, Plastic Foams - 50 g/L, Porous material (except wood) - 50 g/L, Wood - 30 g/L, Fiber Glass – 80 g/L

19.2.22. Wherever required, Contractor shall meet and carry out documentation of all activities on site, supplementation of information, and submittals in accordance with IGBC LEED India New Construction v1.0 or GRIHA program standards and guidelines. Towards meeting the aforementioned building environmental rating standard(s) expert assistance shall be provided to him up on request.

19.2.23. Water Use during Construction Contractor should spray curing water on concrete structure and shall not allow free flow of water. Concrete structures should be kept covered with thick cloth / gunny bags and water should be sprayed on them. Contractor shall do water ponding on all sunken slabs using cement and sand mortar.

19.2.24. The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non-serviceable (malba) material shall be segregated and stored separately. The malba obtained during construction shall be collected in well formed heaps at properly selected places, keeping in a view safe condition for workmen in the area. Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest and till then they shall be suitable covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided.

19.2.25. The contractor shall provide O & M Manuals wherever applicable.

19.2.26. The contractor shall make himself conversant with the Site Waste Management Program Manual and actively contribute to its compilation by estimating the nature and volume of waste generated by the process/installation in question.

19.2.27. Materials & Fixtures for the project:

19.2.27.1. Contractor will produce wherever feasible certificate regarding distance of the source of the relevant material.

19.2.27.2. Unless otherwise stated cement used at site for reinforced concrete, precast members, mortar, plaster, building blocks, etc shall be PPC (Portland Puzzolana Cement). The PPC must meet the requirements of IS 1489 (Part I) as regards to fly

ash content in cement The contractor shall obtain from the PPC manufacturer the certificate regarding fly ash content in the PPC in each batch of consignment.

19.2.27.3. The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14th Sept.1999 containing directive for greater fly ash utilization. Every construction agency engaged in the construction of buildings within a radius of 50 km radius of a Thermal Power Plant, have to use of 100% fly ash based bricks/blocks in their construction.

19.2.27.4. The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Engineer in Charge before the application of any such material.

19.2.27.5. All plumbing and sanitary fixtures installed shall be as per the prescription of the Engineer in Charge and shall adhere to the minimum LPM (litres per minute) and LPF (litres per flush) mentioned. The contractor shall employ 100% zero ODP (ozone depletion potential) insulation; HCFC (hydro-chlorofluorocarbon)/ and CFC (chlorofluorocarbon) free HVAC and refrigeration equipments and / halon-free fire suppression and fire extinguishing systems.

19.2.27.6. The contractor shall ensure that all composite wood products/agro-fibre products used for cabinet work, etc do not contain any added urea formaldehyde resin.

19.2.28. Resources Consumed During Construction:

19.2.28.1. The contractor shall ensure that the water and electricity is not wasted during construction. The Engineer in Charge can bring to the attention any such wastage and the contractor will have to ensure that such bad practices are corrected.

19.2.28.2. The contractor shall install necessary meters and measuring devices to record the consumption of water, electricity and diesel on a monthly basis for the entire tenure of the project.

19.2.28.3. The contractor shall ensure that all run-off water from the site, during construction is collected and reused to the maximum.

19.2.28.4. The contractor shall use treated recycled water of appropriate quality standards for construction, if available.

19.2.28.5. No lights shall be turned on during the period between 6:00 AM to 6:00 PM, without the permission of the Engineer in Charge.

19.2.29. Construction Waste:

Contractor shall ensure that wastage of construction material is within 3%.

19.2.29.1. All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type and measures employed to segregate the waste on site into inert, chemical, or hazardous wastes.

19.2.29.2. All construction debris shall be used for road preparation, back filling, etc, used if described in the schedule of quantities and as per the instructions of the Engineer in Charge, with necessary activities of sorting, crushing, etc.

19.2.29.3. No construction debris shall be taken away from the site, without the prior approval of the Engineer in Charge.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

19.2.29.4. The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos.

19.2.29.5. If and when construction debris is taken out of the site, after prior permissions from the Engineer in Charge, then the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.

19.2.30. Documentation

19.2.30.1. The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a monthly basis:

- Water consumption in litres
- Electricity consumption in 'kwh' units
- Diesel consumption in litres
- Quantum of waste (volumetric/weight basis) generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.
- Digital photo documentation to demonstrate compliance of safety guidelines as specified here and in the Appendix on Safety Conditions.

19.2.30.2. The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a fortnightly basis:

- Quantities of material brought into the site, including the material issued to the contractor by the Engineer in charge.
- Quantities of construction debris (if at all) taken out of the site
- Digital photographs of the works at site, the workers facilities, the waste and other material storage yards, pre-fabrication and block making works, etc as guided by the Engineer in Charge.

19.2.30.3. The contractor shall submit a document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disturbed during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. (Document CAD drawing showing site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction

19.2.30.4. The contractor shall submit to the Engineer in Charge after construction of the buildings, a detailed as built quantification of the following:

a. Total materials used,
b. Total top soil stacked and total reused
c. Total earth excavated
d. Total waste generated,
e. Total waste reused,
f. Total water used,
g. Total electricity, and
h. Total diesel consumed.

19.2.30.5. The contractor shall submit to the Engineer in Charge, before the start of construction, a site plan alongwith a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.

19.2.30.6. The contractor shall submit to the Engineer in Charge, a detailed narrative (not more than 250 words) on provision for safe drinking water and sanitation facility for construction workers and site personnel.

19.2.30.7. Provide supporting document from the manufacturer of the cement specifying the fly-ash content in PPC used in reinforced concrete.

19.2.30.8. Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.

19.2.30.9. The contractor shall, at the end of construction of the buildings, submit to the Engineer in Charge, submit following information, for all material brought to site for construction purposes, including manufacturer's certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:

- Source of products: Supplier details and location of the supplier.
- Project Recyclability: Submit information to assist Owner and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.
- Recycled Content: Submit information regarding product post industrial recycled and post consumer recycled content. Use the "Recycled Content Certification Form", to be provided by the Commissioning Authority appointed for the Project.
- Product Recyclability: Submit information regarding product and product's component's recyclability including potential sources accepting recyclable materials where ever applicable.

19.2.30.10. Provide final certification of well-managed forest of origin to provide final documentation of certified sustainably harvested status: Acceptable wood "certified sustainably harvested" certifications shall include:

- Wood suppliers' certificate issued by one of the Forest Stewardship Council-accredited certifying agencies;
- Suppliers' invoice detailing the quantities of certified wood products for project;
- Letter from one of a certifying agency corroborating that the products on the wood supplier's invoice originate from certified well-managed forests.

19.2.30.11. Clean tech: Provide pollution clearance certificates from all manufacturers of materials

19.2.30.12. Indoor Air quality and Environmental Issues: Submit emission test data, sourced from the manufacturers, produced by acceptable testing laboratory listed in Quality Assurance Article for materials as required in each specific Specification section.

- Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.
- Certification from manufacturers of composite wood products/agro fibre products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.
- Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.

Provide total support to Engineer in Charge and Green Building Consultants appointed by the Engineer- in- Charge in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor's letterhead whenever required.

19.2.31. Equipment:

19.2.31.1. To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the Engineer in Charge.

19.2.31.2. All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

19.2.31.3. The contractor is expected to go through all other conditions of the LEED & GRIHA rating stipulations.

19.3. Failure to adhere to any of the above mentioned items, without approval of the Engineer in Charge, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as per terms of the agreement.

20. CONDITIONS FOR READYMIX CONCRETE :-

20.1. The contractor can use concrete from RMC plants also with prior approval of the Engineer incharge, instead of preparing the same in central batching plant at site within agreement item of Batch Mix Plant without any extra cost, looking to expedite the progress and need of work. However for procuring RMC from approved plant the contractor shall follow the following conditions. Nothing extra shall be payable to the contractor for procuring RMC from the external plant.

20.2. For procurement of ready mix concrete from approved RMC plants, the contractor shall, within a 15 days of award of the work, submit list of at least three RMC plant companies of repute along with details of transit mixer and pumps etc. to be deployed indicating name of owner / company, its location capacity, technical establishment, past experience and text of MOU proposed to be entered between purchaser (the contractor) and supplier (RMC Plant). The Engineer – in – Charge shall give approval in writing (subject to draw of MOU). The contractor shall draw the MOU with approved RMC plant owner / company and submit to Engineer – in – Charge within a week of such approval. The contractor will not be allowed to purchase ready mixed – concrete without completion of above stated formalities for use in this project. Notwithstanding the approval granted by Engineer-in-charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.

20.3. The Engineer-in-charge will reserve right to inspect at any such stage and reject the concrete if he is not satisfied about quality of product. The contractor should therefore draw MOU / agreement with RMC owner / company very carefully, keeping all terms and

conditions / specifications forming a part of this tender document. Including the following controls.

20.3.1. The Engineer-in-charge reserves the right to exercise control over the ingredients, water and admixtures purchased, stored and to be used in the concrete including conducting of tests for checking quality of Materials, recordings of test results and declaring the Materials fit or unfit for use in production of mix.

20.3.2. Calibration checks of the RMC.

20.3.3. Weight and quantity check on the ingredients, water and admixtures added for batch mixing.

20.3.4. Time of mixing of concrete.

20.3.5. Testing of fresh concrete, recordings of results and declaring the mix fit or unfit for use. This will include continuous control on the workability during production and taking corrective action.

For exercising such control, the Engineer-in-charge (if required) shall periodically depute his authorized representative at the RMC plant. It shall be responsibility of the contractor to ensure that all-necessary requirement manpower & facilities are made available to Engineer-in-charge and / or his authorized representative at RMC plant.

20.4. The ready mix concrete should be produced in RMC plant using fully automatic batching plant having capacity to produce 30 cum/hr. The plant should have computerized control and shall give print out of all the ingredients.

20.5. All required relevant records of RMC shall be made available to the Engineer-in-charge or his authorized representative. Engineer-in-charge shall, as required specify guidelines & additional procedures for quality control & other parameters in respect of materials and production & transportation of concrete mix, which shall be binding on the contractor & the RMC plant.

20.6. 43 grade OPC/ PPC as per schedule of the contract (conforming to relevant IS Codes) of brand / make / source as approved by Engineer-in-charge shall only be used for production of concrete.

20.7. The RMC produced concrete be accepted by Engineer-in-Charge at site after receipt of the same after fulfilling all the requirements of mix mentioned in the tender documents.

20.8. The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery, T&P etc. required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like cement and aggregates and admixtures etc. as per the approved mix design.

20.9. Ready mix concrete shall be arranged in quality as required at site of work by transportation in a transit mixer. [The general conditions of transit mixer and other requirement shall conform to IS:5892.] Ready mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in-charge.

20.10. All other operations in concreting work like Mixing, Slump, transportation, laying/placing of concrete, compaction, curing etc. not mentioned in this particular specification for Design Mix Concrete shall be as per IS : 456-2000 or amended thereafter.

20.11. For design mix concrete of RCC other than those specified above, the contractor shall use the Design mix concrete produced by a central batching and mixing plant at his own cost. The contractor, if he so desires, can arrange the design mix concrete also from Ready mix

concrete producer after obtaining written approval of the Engineer-in-charge. Nothing extra whatsoever shall be payable on this account.

20.12. Ready mix concrete shall be arranged in quantity as required at site of work. The ready mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in-charge. Nothing extra shall be payable on this account.

20.13. The item of design mix cement concrete (produced at site as well as arranged from RMC producer) shall be inclusive of all the ingredients including admixtures if required, labour, machinery, transportation etc. (except reinforcement and shuttering which will be measured & paid as per provision of contract) required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of changes in quantities of concrete ingredients like cement and aggregates and admixtures etc. as per approved mix design except for quantity of extra cement payable as per schedule of quantity. Other operations in concreting work like Mixing, Slump, transportation, laying / placing of concrete, compaction, curing etc. not mentioned in this particular specification for Design Mix of Concrete shall be as per IS : 456-2000.

21. WATER PROOFING TREATMENT

21.1. **GENERAL :-**

All the water proofing treatment shall be got executed through one of the approved agencies as per the list of approved agencies furnished with tender schedule or as directed by the Engineer-in-charge.

The contractor shall furnish the following particulars immediately after the issue of letter of acceptance by the Department.

21.1.1. The name of the specialized firm.

21.1.2. The trade names of the product, which would be used.

21.1.3. List of works where the treatment has been used.

21.1.4. Quantity of chlorides and sulphides used in the product.

21.2. **INTEGRAL CEMENT BASED WATER PROOFING TREATMENT**

21.2.1. **Treatment for roof surface:**

The brick bats shall be from well-burnt bricks. The proprietary waterproofing compound shall bear I.S.I. mark and shall conform to I.S. 2645. Before execution of work, water proofing compound shall be procured and brought to site from which random sample would be got tested for its conformance to I.S. Code in an approved laboratory. The proprietary waterproofing compound shall be added at the rate recommended by the specialist firms.

The finished surface after water proofing treatment shall have minimum slope of 1 in 80. At no point, the thickness of water proofing treatment shall be less than 65mm.

While treatment of roof surface is done, it shall be ensured that the outlet drain pipes have been fixed and mouths at the entrance have been eased and rounded off properly for easy flow of water.

The surface where the waterproofing is to be done shall be prepared by thoroughly cleaning with wire brushes. All loose scales , laitance shall be removed and dusted off

and washed clean with water. The surface shall then be treated with neat cement slurry @ 2.75 kg per sqm, admixed with proprietary waterproofing compound, in proportion as recommended by the manufacturer, to penetrate into crevices and fill up all the pores in the surface. This cement slurry shall be applied at the junction of parapet and terrace slab including the vertical face of the parapet upto 300 mm.

After the slurry coat is applied, a 20 mm thick layer of cement mortar not leaner than 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound conforming to IS: 2645 shall be laid. Then a layer of well burnt brick bats shall be laid in cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound. This layer shall be laid to required gradient and joints filled to half the depth. The brick bat layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300mm. Curing of this layer shall be done for 2 days. After curing, the surface shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.

Joints of brick bat layer shall then be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:4 (1 cement: 4 coarse sand) admixed with proprietary water proofing compound and finally top finished with average 20 mm thick layer of joint less cement mortar of same mix and finished smooth with cement slurry admixed with proprietary water proofing compound including laying glass fibre cloth**145 gm / sqm** of approved quality in top layer of plaster. The finished surface shall have marking of 300 x 300mm false squares to give the appearance of tiles. Where the water proofing treatment is to be finished with china mosaic tile flooring , the top surface of the water proofing treatment shall be finished rough and false squares shall not be made.

Curing and final test of water proofing treatment shall be done for a minimum period of two weeks by ponding water. The Contractor at his own cost shall arrange the water for this purpose. Nothing extra shall be payable on this account.

21.2.2. **MEASUREMENTS:**The measurements shall be taken along the finished surface of treatment including the rounded and tapered portion at junction of parapet wall. Length and breadth shall be measured correct to one centimeter and area shall be worked out to nearest 0.01 sqm. No deduction in measurements shall be made for either opening or recesses for chimneys, stacks, roof lights and the like for areas up to 0.40 sq.m. nor anything extra shall be payable for forming such openings. For similar areas exceeding 0.40 sqm. Deductions shall be made in measurements for full openings and nothing extra shall be paid for making such openings.

21.2.3. **RATES:** The rate shall include the cost of all labour and materials involved in all the operations described above and as per the item description.

21.3. **SUNKEN FLOOR SLAB, ITS TREATMENT ETC.**

21.3.1. Brickbat aggregate shall be from well-burnt bricks. The proprietary waterproofing compound and the quantity to be used shall be as per above Para. The surface shall be thoroughly cleaned with wire brushes. All loose scales, laitance shall be removed and dusted off. The surface bottom as well sides shall be applied with a coat of cement

slurry admixed with proprietary water proofing compound to penetrate into crevices and fill up all the pores in the surface.

After the slurry coat is laid, 20 mm thick layer of cement mortar not leaner than 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound conforming to IS: 2645 shall be laid. Then a layer of well burnt brick bats of about 40mm size shall be laid in cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1cement: 5 coarse sand) admixed with proprietary water proofing compound, the mortar being filled to half the depth of the brick bat layer. The brick bat layer shall be rounded off at junction with the beam / wall etc., and tapered towards top to a height of 150 mm along beam / walls etc. Curing of this layer shall be done for two days. After curing, the surface shall be applied with a coat of neat cement slurry admixed with proprietary water proofing compound.

Joints of brick bat shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:4 (1cement: 4 coarse sand) admixed with proprietary water proofing compound and top finished with average 20mm thick layer of same mortar. This layer of mortar shall be continued to the sides of beam / wall of the sunk etc. The height upto that this treatment is to be extended on the sides shall be as directed by the Engineer-in-Charge. The surface shall be finished smooth with cement slurry admixed with proprietary water proofing compound. No chequers or false squares shall be marked on the finished surface.

While the water proofing treatment is done, it shall be ensured that the outlet pipes are properly fixed and the gaps between the wall and pipes are properly filled with brick / stone aggregate and cement mortar admixed with proprietary water proofing compound and grouted with cement slurry admixed with proprietary water proofing compound. Waterproof treatment shall be cured for a minimum period of two weeks.

21.3.2. **Measurements**: Measurements for the floor treatment shall be taken on the plan area of floor treated. Nothing extra shall be paid for rounding off at junctions and taking the treatment along the sides of beams and walls for about 150 mm.

21.3.3. **Rates**: The rate shall include the cost of all labour and materials involved in all the operations described above.

22. GUARANTEE FOR THE WORK OF REPAIRS TO RCC MEMBERS

Guarantee for the work of repairs to RCC members: Ten years guarantee in prescribed proforma attached shall be given by the contractor for the repairs to RCC work using rendorac, non shrink plaster, anti corrosive coat to reinforcement and epoxy coat to concrete work. In addition 10% (ten percent) of the cost of these items of repairs to RCC members shall be retained as guarantee to watch the performance of the work executed. However, half of this amount (withheld) would be released after five years from the date of completion of the work, if the performance of the retrofitting works is satisfactory. The remaining withheld amount shall be released after completion of ten years from the date of completion of work, if the performance of the retrofitting work is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days of issuing of notice by the Engineer-in-Charge and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards

guarantee. In any case, the contractor and the specialist agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing. The security deposit can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee period, is produced and deposited with the department.

23. GUARANTEE FOR POST ANTI TERMITE TREATMENT:

Five years guarantee in prescribed proforma attached shall be given by the contractor for the Antitermite treatment. In addition 10% (ten percent) of the cost of these items of Anti teremite under this sub head shall be retained as guarantee to watch the performance of the work executed. However, half of this amount (withheld) would be released after 30 months from the date of completion of the work, if the performance of the waterproofing works is satisfactory. The remaining withheld amount shall be released after completion of 60 months from the date of completion of work, if the performance of the waterproofing work is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days of issuing of notice by the Engineer-in-Charge and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards guarantee. In any case, the contractor and the specialist agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing. The with held amount as guarantee can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee period, is produced and deposited with the Department.

GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF RETRO FITTING/ REPAIRS FOR RCC WORKS

The Agreement made this……day of ……..Two thousand and …….. between ……..……son of ……..of …… hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called Government 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 Government of the other part, whereby the Contractor, inter alia, undertook to render the buildings and structures in the said contract recited completely. AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said the part of structures will remain intact for ten years from the date of completion of repair / retrofitting to RCC members.

NOW THE GUARANTOR hereby guarantees that repairs/ retrofitting given by him will render the structures completely leak-proof and the minimum life of such retrofitting/ repair to RCC members works 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 damages caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

(a) The decision of the Engineer-in-charge with regard to damages 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 to the satisfaction of the Engineer-in-charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the GUARANTOR 'S cost and risk. The decision of the Engineer-in-charge as to the cost, payable by the guarantor shall be final and binding.

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

IN WITNESS WHEREOF these present have been executed by the Obligor……..and by ……and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

SIGNED, SEALED and delivered by OBLIGOR in the presence of –

1.

2.

SIGNED for and on behalf of THE PRESIDENT OF INDIA by……..in the presence of-

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

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

(SPECIMEN)

(Ref. para 3.7 of Particular Specifications and Special conditions)

The Agreement made this …….day of ……two thousand and …… between ……son of …….of …….(hereinafter called the **Guarantor** of the one part) and the PRESIDENT OF INDIA (hereinafter called Government 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 Government 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 **GUARANTOR** agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for ten years from the date of giving of water proofing treatment.

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

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

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

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

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

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

Signed, sealed and delivered by OBLIGOR in the presence of –

1. ……
2. ……

Signed for and on behalf of THE PRESIDENT OF INDIA by ……..in the presence of –

1. ……
2. ……

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

8. LIST OF APPROVED MATERIALS

(Brands approved by ADG(RC), Chennai/SDG(PR), Chennai from time to time)

(FOR CIVIL WORKS)

List of Approved materials for SDG, PRC, CPWD, Chennai (Civil)			
Sl.No	**Material Description**	**Material**	
		Brand	**Make**
1	Chloropyriphos	PIRAMID	AMVAC AGRI RASAYAN Pvt. Ltd.
		NOBAN	Chemtts Wets & Flows Pvt. Ltd.
		DURSBANTCT	DE-NOCIL Ltd.
		Premise Agenda	Bayer Ltd
		HILBAN	Hindustan Insecticides Ltd.
		Sarups Pest Control	Sarups Pest Control Ltd.
2	Ordinary Portland Cement (43 grade)	ACC	ACC cements Ltd
		Ultra Tech	Ultra Tech Cement Ltd.
		Coromandal	India Cements Ltd.
		Birla	Birla Corportion Ltd.
		Chettinadu	Chettinadu Cements Corportion Ltd.
		Bharathi	Bharathi Cement Corportion Ltd.
		Dalmia	Dalmia Cement Bharat Ltd.
		Zuari	Zuari Cement Limited
		Jaypee Cement.	Jaypee Cement Ltd.
		Maha Cement	Myhome Industries Pvt.Ltd.
		J.K.Cement	J.K.Cement Pvt.Ltd.
		Ambuja Cement	Ambuja Cements Ltd.
		Penna Cement	Penna Cement Industries Ltd.
		Konark Cement	Konark Cement
		Century Cement	Birla Gold Cement
		Shree Cement	Shree Cement
3	Damp Proof material	MAPEI	MAPEI Construction Products India P Ltd.
		Ferrous crete	Ferrous Crete (India) Pvt. Ltd.
		Impermo	Snowcem Paints
		Duraseal	Apurva India Pvt. Ltd.
		ACCO Proof	ACC Cement Ltd.
		Dr. Fixit	Pidilite Industries
		Fosroc	Fosroc Chemicals India Pvt. Ltd.
		CICO	CICO Industries
		SIKA	Sika India Pvt. Ltd
		PIDILITE	Pidilite Industries Ltd.
		BASF	BASF India Ltd

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		MYK	MYK LATICRETE India Pvt. Ltd
4	TMT bars Fe-500D	SAIL	Steel Authoirty of India Ltd.
		TISCO	TATA STEEL Ltd
		VIZAG	Rastriya Ispat Nigam Ltd.
			M/s.Electrosteel Steels Limited
		JSW	JSW Steel Ltd
5	Plasticiser & Super Plasticiser	Contrament, Power flow	MC Bauchemie (India) Pvt. Ltd
		Sunanda Chemicals	Sunanda Chemicals Ltd.
		MYK Schomburg	MYK Arments range of products
		Plastiment, Sikament	Sika Inida Pvt Ltd.,
		Conplast SP430	FOSROC India
		Chryso-HP / Delta / Optima	Chryso India Pvt. Ltd.,
		BASF	BASF India Ltd
		CICO	CICO Industries
6	Expansion Joint Bitumen board	Dura board HD100	Supreme Industries
		STP	Shalimar Tar Products
		DURAFILL	Supreme Industries
7	Post tensioning System	CRUX	Crux Processing systems Pvt Ltd.,
		VSL	VSL India Pvt Ltd.
		Ultracon	Ultracon Structural Systems Pvt Ltd
		BBR	BBR (India) Pvt . Ltd
8	PT Strands	DP wires	D.P Wires Ltd.
		TATA wiron	TATA Steel Ltd.,
		Usha Martin	Usha Martin Ltd
9	Adhesive	Dunlop	India Tyre & Rubber Co (India) Ltd.
		Vamorganic	Vamorganic Ltd.,
		Sika	Sika India Pvt. Ltd
		Fevicol	Pidilite Industries
		CICO	CICO Industries
		Proofex of adhesive	FOSROC India Ltd
10	Grout	Ardex	Ardex Endura Adhesive India Pvt. Ltd
		Ferrous crete	Ferrous Crete (India) Pvt. Ltd.
		LATA POXY	MYK LATICRETE India Pvt. Ltd
		BASF	BASF India Ltd
		FosrocGP2	Fosroc India Ltd
		MYK Schomburg	MYK Arments range of products
		Fugabella,	Kerakoll India Pvt. Ltd

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Porcelana	
		Dr. Fixit	Pidilite Industries
		Weber	Saint-Gobin India Pvt. Ltd
11	Ready Mix Concreate	Ultra Tech ACC RMC (India) Lafarge	Ultra Tech Concrete ACC Ltd RMC (India) Pvt. Ltd. Lafarge India Pvt. Ltd
12	AAC Blocks	Xtralite	UlTRATECH Cement Ltd
		Areocon	HIL
		Siporex	SIPOREX
		Nucon	Green way building materials India Pvt. Ltd
		NCL	NCL VEKA Ltd.
		Renacon	Renaatus Procon Pvt. Ltd.
13	Wooden Flush door shutters	Jayna Flush Doors	Jain Wood Industries
		Raavella door	Raavella Industrials (P) Ltd
		Kailash	Kailash Hi tech Timber Industries India Pvt. Ltd
		Indian Timber Products	Indian Timber Products
		Shakthi	Shree Shakthi Modern Flush doors
		Greenlam	Greenlam Ply Industries Ltd.
		Mayur	Mayur Ply Industries
		MP Ply wood products	MP Wood products
		Kitply	Kitply Industries Ltd.
		Duro Flushdoors	Duro Ply Industries Ltd.
		Kenwood	Kenwood Ply & Board
		Century	Century Flush Doors
14	Water Proof Plywood, Commercial ply, Fire retardant ply and Block boards	Jayna ply	Jain Wood Industries
		Green Ply	Green ply Industires Ltd.
		Kitply	Kitply Industries Ltd.
		Duroply	Duro Ply Industries Ltd.
		Archidply	Archid ply industries Ltd.
		Century ply	Century Flush Doors
15	Laminate	Green Lam	Green lam Industries Ltd.
		Centuary	Centuray laminates
		Merino	Merino laminates
		Archidply	Archid ply industries Ltd.
		Sonear	Sonear Laminates
		Royal touche	Royal touche laminates

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Kitmica	Kitply Industries Ltd.
		Sunmica	Sunmica Industries
		Vidya Ply	
		Formica	Formica Laminates (India) Pvt Ltd.
		Decolam	Decolam India Pvt Ltd.
16	Prelaminted particle board Exterior Grade	Novapan	GVK Novapan Industries Pvt Ltd.,
		Merino	Marino laminates
		Kitlam	Kit Ply Industires Ltd,
		TESA Action Co.	TESA Action Co.
		Ecoboard	Ecoboard Industries Ltd.
		Associate	Associate Décor Limited
		Archid ply	Archid ply industries Ltd.
		Centuary	Centuary MDF
		Green Lam	Green lam Industries Ltd.
17	High Density (HDF) Prelaminated board	Pergo	Red Floor India
		Green Ply	Green Ply Industries Ltd.
18	Gypsum board	Gyproc Saint Gobain	Saint Gobain Gyprock India Ltd.,
		Lafarge	Lafarge Gypsum India Pvt. Ltd
		USG Boral Board	USG Board India (P) Ltd.
		Armstrong	Armstrong wold Industries
19	Glass door hardware	Dorma	Dorma India Pvt Ltd
		Kich	Kich Architectural Products Ltd.
		Classic	Classic hardware
		Squash	Squash glass doors
		Hafele	Hafele India Pvt. Ltd
		Ozone	Ozone Hardware.
		Geze	Geze GMBH
		Dorset	Dorset Industries Pvt Ltd
20	Hydraulic door closers/ Floor springs	Godrej	Godrej locking solution & systems
		Hardwyn	Hardwyn hardware
		MAGNUM KIT	Mukund Overseas
		Dorma	Dorma India Pvt Ltd.
		Everite	Everite agencies
		Dorset	Dorset Industries Pvt Ltd
21	Locks & Latches	Dorset	Dorset Industries Pvt Ltd
		Godrej	Godrej locking solutions & systems
		Hitech	Globe Locks India

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Hafele	Hafele India Pvt. Ltd
		Harrison	Harrison locks
		Plaza	Bharat lock House
		Yale	ASSA ABLOY India (P) Ltd.
		Link	Link Locks
22	Metalic / Steel Fire Door	Shakthi Hormann	Shakthi Hormann Pvt Ltd,
		Promot	Promot fire & Insulation (P) Ltd.
		MPP Schodders	MPP Technology Pvt.Ltd.
		NAVAIR	NAVAIR International Pvt Ltd
		Signumfire Protection	Signumfire Protection Pvt. Ltd
		Sukri	Sukri Fire doors Pvt.Ltd
		Kenwood	Kenwood Ply & Board
		Godrej	Godrej Security solutions
23	Fire Smoke Seal	Hilti	Hilti India Pvt Ltd.
		Promat	Promat fire & Insulation (P) Ltd.
		Atroflame	Atroflame Ltd.
		Raven	Raven Global
24	Fire rated hardware	Dorma	Dorma India Pvt. Ltd
		Ingersolrand	Ingersolrand (India) Ltd,
		Dorset	Dorset Industries Pvt Ltd
		Backers FS	Backers FS
		Geze	Geze GMbH
25	Non Metalic Fire door	NAVAIR	NAVAIR International Pvt Ltd
		Promat	Promat fire & Insulation (P) Ltd.
		Godrej	Godrej Security solutions
		Kenwood	Kenwood Ply & Board
26	Stainless steel screws	Kundan	Kundan Industries Ltd.
		Alloy	Alloy ltd
		GKW	GKW Limited
		Nettlefold	Nettlefold screws
		Pooja	Pooja Steel Corportion
		Atul	Atul fasteners Ltd.
27	Butt Hinges openable window shutters	Hafela	Hafele India Pvt. Ltd
		Earlt Bihari	Earlt Bihari India Pvt .Ltd.
		Dorma	Dorma India Pvt. Ltd
		Dorset	Dorset Industries Pvt Ltd
		Alu Alpha	Alu Alpha India
28	Mild Steel Butt Hinges / Piano	Jolly	Jolly Engineering works

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

	hinges	Supreme	Supreme
		Saswat	Saswat
		Deepak	Deepak
		Swift	Swift screws
		Garg	D.P Garg & Company
		Amit	Lovely metal industries Pvt Ltd.
		Jyoti	Jypti Architectural Pvt Ltd.
29	Stainless steel Butt hinges	Prayag	Prayag Polymers (P) Ltd
		Ozone	Ozone Hardware.
		Dorma	Dorma India Pvt Ltd
30	Concealed tower bolt	Dorma	Dorma India Pvt Ltd
		Ingersolrand	Ingersolrand (India) Ltd,
		DORSET	Dorset Industries Pvt Ltd
		Alu Alpha	Alu Alpha India
31	UPVC doors, door frames and windows	Fenesta	Fenasta DCM Shriman
		Encraft	Encraft India Pvt.Ltd.
		LG	LG India Pvt. Ltd.
		Rehau	Rehau Unlimited Polymer Solutions
		Aluplast	Alu Alpha India
		Komarling	Profile India Window Technology Pvt.Ltd.
		Duroplast	Duro Plast Extursion Pvt.Ltd.
32	PVC Doors and Frames	Accucel	Accura polytech pvt. Ltd.
		Sintex	Sintex plastic technology Ltd,.
		Duroplast	Duroplast extrusion Pvt Ltd
		Polyline	Polyline extrusion Pvt Ltd
		Rajshri	Rajshri Productions Pvt. Ltd.
		NCL VEKA	NCL VEKA Ltd.
33	Stainless friction hinges	Hetich	Hetich India Pvt .Ltd.
		Haffle	Haffle India Pvt .Ltd.
		Securistyle	Securistyle India Pvt .Ltd.
		Earl Bihari	Earl Bihari India Pvt .Ltd.
		EBCO	EBCO
		ROTO	ROTO Frank Asia
34	Float Glass	Saint Gobain,	Saint Gobain India Pvt .Ltd. ,
		Asahi	Asahi India glass .Ltd.
		Pilkinton	Pilkinton India Pvt .Ltd.
		Modiguard	Gujarat Guardian Ltd.
35	Reflective glass	Saint Gobain,	Saint Gobain India Pvt .Ltd. ,
		Asahi	Asahi India glass .Ltd.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Pilkinton	Pilkinton India
		Modifloat	Gujarat Guardian Ltd.
		Glaverbel	Glaverbel India
36	Tempered reflective/clear glass	Saint Gobain,	Saint Gobain India Pvt .Ltd.
		FUSO	FUSO Glass India Pvt .Ltd.
		Gurind	Gurind India
		Asahi	Asahi India glass Ltd,
		Modiguard	Gujarat Guardian Ltd.
		Impact safety	Impact safety glass workes Pvt Ltd
37	Fire rated glass	Contra flam/ Pyroswiss of Sanit Gobain	Saint Gobain India Pvt Ltd.
		Promat	Promat fire & Insulation (P) Ltd.
		Pyran of Schott	Schott glass India Pvt .Ltd.
		Pilkinton	Pilkinton India
38	Anchor/ SS Stone Cladding Clamps/ Dash fasteners	Hilti	Hilti India Pvt .Ltd.
		Fischer	Fischer India
		Anchor	Anchor Ltd
		Nutech	
		Canon	Cannon
		Wurth	Wuerth India Pvt. Ltd
		Trixel	Axel India Pvt.Ltd
		Helfen	Helfen Gmbh
		BOSCH	BOSCH Ltd
39	Structural Steel	SAIL	SAIL
		TISCO	TATA STEEL
		VIZAG	RINL
		JSW	JSW
40	M.S.Pipe, Tubes	SAIL	SAIL
		TISCO	TATA STEEL
		Apollo	
		Kalinga	
		JINDAL	JSW
41	Stainless steel	Salem	SAIL
		Connect	Connect ltd.
		Ark Product Pvt. Ltd	Ark Product Pvt. Ltd
		Jindal	JSW
		SAIL	SAIL
		KINGSTON	KINGSTON Brass
42	Stainless steel Bolts, washers,	Kundan	Kundan Industires Ltd

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

	nuts	Pooja	Pooja Steel Corrporation
		Atul	Atul fasterners Ltd
		Hilti	Hilti India Pvt. Ltd
43	Stainless steel pressure plate screws	Kundan	Kundan Industires Ltd
		Pooja	Pooja steel corporation
		Atul	Atul fasterners Ltd
44	Welding rods	Advani	Advani oerlikon Ltd.
		ESAB	ESAB India Pvt. Ltd
45	Metal Deck Sheet	TATA	TATA STEEL
		SAIL	SAIL
46	Shear Stud/ Connector	KOCO	KOSTER & Co.
47	Vitrified tiles	AGL	Asian Granite India Ltd
		Marbito	Marbito tiles
		NITCO	NITCO Ltd
		RAK	RAK Ceramic India Pvt Ltd.
		Restile	Restile Ceramic Ltd.
		Kajaria	Kajaria Ceramic Ltd
		Somany	Somany Ceramic Ltd
		Jhonson	Prism Jhonson Ltd
		Varmora Granito	Varmora Granito Granite Pvt. Ltd
		Naveen	Murudeshwar Ceramics Ltd.
		Viero	Aparna Tiles
48	Glazed Ceramic tiles (Also wall tiles)	AGL	Asian Granite India Ltd
		NITCO	NITCO Ltd
		RAK	RAK Ceramic India Pvt Ltd.
		Kajaria	Kajaria Ceramic Ltd
		Somany	Somany Ceramic Ltd
		Jhonson	Prism Jhonson Ltd
		Varmora Granito	Varmora Granito Granite Pvt. Ltd
		Naveen	Murudeshwar Ceramics Ltd.
49	Synthetic Sports flooring	Armstrong	Armstrong flooring
		LG	LG Hausys India
		Wondorfloor	RMG Polyvinyl India Ltd.
50	Linoleum sports flooring	Armstrong	Armstrong flooring India Pvt Ltd.
		Forbo	Forbo flooring India Pvt. Ltd.
		Gerflor	Gerflor flooring
51	False floor	Hewetson	Hewetson India
		Access floor system	Access Floor System
		Unifloor	Unifloor India Ltd
		Unitile	Unitile office systems Pvt. Ltd

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		PINNACLE	
		Kebao	Inner Space (Distributors)
52	Engineered wood floor	Armstrong	Armstrong flooring
		Mikasa Real wood floors	Green Lam Industries
		New wood	New Wood india ltd
		Werner	Durafloor werner GmbH
		Pergo	Redfloor India
53	Floor spring (For non DSR items)	Dorma	Dorma India Pvt Ltd
		Ingersolrand	Ingersolrand India Pvt Ltd
		OZONE	Ozone Hardware.
		GEZE	GEZE GmbH
54	Cement concrete parking tiles	NITCO	NITCO Ltd
		Poddar	Poddar Udyog
		Eurocon	Eurocon tiles India
		Dazzle	Dazzle Designer tiles Pvt Ltd
		NTC	NTC Parking tiles
		Hindustan tiles	Hindustan tiles, Ranchi Pune
		Ultra	Ultra tile private Ltd.
55	Synthetic Carpet tiles	TOLI	TOLI corporation
		Hollitex	Hollitex carper tiles
		Standard Carpets	Standard Carpets
56	Vitrified paving tiles	PAVIT	PAVIT ceramics Pvt Ltd.
57	Glass mosaic tiles	Italia	Tile Italia mosaics Pvt Ltd.
		Coral	Coral tiles
		Mridul	Mridul tiles
		Palladio	Palladio Mosaics
		Bisazza	Bisazza Italy
		Birla White	Birla Corportion Ltd.
		JK White	JK Cement ltd.
		PAVIT (Eco Tile)	PAVIT Ceramics Pvt Ltd.
58	Thermal Insulation treatment	Pidilite	Pidilite industries
		Elastospray	BASF
		Rock India Pvt.LTd	Rock India Pvt.Ltd
59	Acoustic Insulation	Twingerinsul	U.P.Twiga fiber glass Ltd
		Lloyd Insulation	Lloyd Insulation (India) Ltd
		Saint Gobain Gyproc	Saint Gobain Gyproc India
		Himalyan Acoustics	Himalyan Acoustics
		Knauf	Knauf Gypsum India Pvt. Ltd.
		Anutone	Anutone Acoustics Ltd.
60	UPVC Pipes and fittings (Rain water pipes)	Supreme	Superme Industries Ltd.
		Prince	Prince pipes and fittings Ltd.
		Finolex	Finoles Industries Ltd.
		Prepoly	Premier PVC Industry

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Astral	Astral polytechnik Ltd.
		Ashirwad	Ashirwad PVC Pipes
		Flow Guard	Flow Guard
61	Sandwich PUF panelled roofing sheets	Lloyd Insulation	Lloyd Insulation (India) Ltd
		JINDAL MECTEC/ JINDAL	Mectec Pvt. Ltd
		Danpalon	Danapal Light architecture
		GE Plastic	GE Silicones
		LEXAN	LEXAN Ltd
62	Polycorbanate Sheet	MG Polyplast	MG Polyplas
		GE Lexon	GE Silicones
		Danpalon	Danapal Light architecture
		Alcox	Hindeggan Alcox Ltd.
		Polygal	Polygal India Pvt Ltd.
63	False ceilings	Aerolite	Andhra Polymers Pvt. Ltd./Aerolite Industries Pvt. Ltd.
		Anutone	Anutone Accoustics Ltd.
		Armstrong	Armstrong World Industries
		Gridsquare	Gridsquare Ceilings
		Knauf	Knauf Gypsum India Pvt. Ltd.
		USG Boral	USG Boral
		Hunter Dougals	Hunter Dougals
		Saint Gobain Gyproc	Saint Gobain Gyproc India
64	False Ceiling Members (Perimeter, Ceiling section, intermediates, angles etc.,)	Armstrong	Armstrong World Industries
		Aerolite	Andhra Polymers Pvt. Ltd./Aerolite Industries Pvt. Ltd.
		Gridsquare	Gridsquare Ceilings
		Gypframe steel	British Gypsum
		Knauf	Knauf Gypsum India Pvt. Ltd.
		Lloyd	Lloyd Insulation (India) Ltd
		Saint Gobain	Saint Gobain Gyproc
65	Synthetic enamel Paint	Premium gloss enamel	Asian paint Ltd
		Dulex	ICI dulex Ltd
		Nerolac	Nerolac Paints Ltd
		Berger	Berger Paints
		Nippon	Nippon Paint India Ltd.
66	Pink primer	Wood primer	Asian paint
		Dulex	ICI dulex
		Nerolac	Nerolac Kansia Nerolac Paints Ltd.,
		Berger	Berger Paints
		Nippon	Nippon

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

67	Red Oxide Zinc Chromate primer	High performance yellow metal primer	Asian paint
		Dulex	ICI dulex
		Nerolac	Nerolac
		Berger	Berger Paints
		Nippon	Nippon
68	Oil Bound Distemper	Tractor Aqalock	Asian paint
		Dulux (Maxilite)	Dulux
		mG Polyplast	Nerolac
		Berger (Bisom)	Berger Paints
69	Acrylic emulsion	Premium emulsion	Asian paint
		Dulux (Super Cover)	ICI Dulux
		Nerolac (Beauty Gold)	Nerolac
		Berger (BISM)	Berger Paints
70	Water Proof Cement paint	Asian exterial wall primer	Asian paint
		Berger	Berger Paints
		Surfa	Surfacoats (India) Pvt. Ltd.
		ICI DULUX	ICI DULUX
		Cem Colour	Snowcem Paints
71	Acrylic smooth exterior paint	Dulux	ICI dulux
		Apex	Asian paints
		Nerolac	Nerolac
		Berger	Berger
		Nippon	Nippon
72	Premium Acrylic smooth exterior paint with silicon additives	ULTIMA	Asian paint
		Dulux	ICI dulux
		Nerolac	Nerolac
		Berger	Berger
73	Cement based wall putty	J.K.wall putty	J.K. Cement Ltd.
		Birla wall care	Birla Cements Ltd.,
		Asian paints	Asian paints Ltd
		Altek	NCL Alltek & seccold Ltd.
		Berger	Berger
		Ardex Endura	Ardex Endura India Pvt. Ltd.
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
74	Acrylic texured plaster	Apex Duracast	Asian paints
		Spectrum paints	Spectrum paints Ltd.
		Heritage	Heritage Rajkamal Group
		Asian paints	Asian Paints
		Neroloc	Neroloc

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

75	Ready mix cement plaster	Readi Plast	Ultratech cements Ltd.
		Gyproc Plasters	Saint Gobain Gyproc India
		Ultra tech	Ultra tech Cement Ltd.
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
76	Melamine Polish	Asian paints	Asian paints
		Melamine Gold wudfin	Pidilite industries
		Polycure	Polycure malaysia
77	Fire retardant paint	Jotun	Jotun paints
		Hilti	Hilti India
		Akzonobel	Dulex Akzonobel Paints
		Asian Paints	Asian Paints
		STPL Ltd.	STPL Ltd.
78	Anticorrosive bitumastic paint	Berger	Berger paints India Ltd.
		Shalimar	Shalimar paints India Ltd.
		IS 158 bituminous black	Asian Paints
79	Cement Primer	Asian paints	Asian paints
		JK Primaxx	JK Cement Ltd.
		Berger	Berger paints India Ltd.
80	Epoxy paint	Asian epoxy	Asian paints
		Berger	Berger paints India Ltd.
		Shalimar	Shalimar paints
		STP Ltd.	Shalimar Tar Products
		Ardex Endura	Ardex Endura India Pvt. Ltd.
		Nerolac	Nerolac
81	Epoxy coating	BASF	BASF India Ltd.
		Fosroc	Fosroc India
		Laticrete	MYK Laticrete India
		Ardex Endura	Ardex Endura India Pvt. Ltd.
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
82	Sililcon coating	Dow corning	Dow corning India
		BASF	BASF India Ltd.
		GE	GE Silicones
		Wacker	Wacker silicones.
83	Interlocking Concrete Paver Blocks	Dazzle	Dazzle designer tiles (P) Ltd.
		Ultra	Ultra tiles Pvt Ltd.,
		Shree	Shree Bharat Paver blocks
		Hindustan tiles	Hindustan tiles, Ranchi Pune
		Vyara tiles	VYARA TILES Pvt Ltd., / Surat
		NITCO (ROCKARD)	NITCO
		BHARAT (NILSAN)	Bharat

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		REGENCY	Regency
		Basant Betons	Basant Betons
84	Solar studs/ Median markers	3M	3M Science
		Avery Dennison	Avery Dennison India Pvt Ltd.
		Nikkalite	Nippon carbide Industires (USA)
85	Polycorbonate Convex mirrors, Rubberised road hump	Unique safety solutions	Unique safety solutions
86	Mirror	Modi Guard	Gujarat Guardian Ltd.
		Saint Gobain	Saint Gobain Glass India Ltd.,
		AIS mirror	Asahi India glass Ltd,
		Atul	Atul glass Industries Ltd.,
87	Vitreous Commodes/ Washbasin	Hindware	HSIL Ltd,
		Roca	ROCA Bath room products
		Parryware	ROCA Bath Pvt. Ltd.,
		Kohler	Kohler world wide
		CERA	CERA Sanitaryware Ltd.,
		Jaquar	Jaquar Group
88	Flushing Cistern	Parryware	ROCA Bath Pvt. Ltd.,
		Kohler	
		Hindware	HSIL Ltd,
		CERA	CERA Sanitaryware Ltd.,
		Jaquar	Jaquar Group
89	SWR PVC Pipes & fittings	Supreme	Superme Industires Ltd.
		Astral	Astral polytechnik Ltd.
		Finolex	Finolex Industries Ltd.,
		Flowgard	Ashirwad PVC Pipes
		Prince	Prince Pipes and fittings
90	Stainless Steel Kitchen sink	Jhonson	Prision Jhonson Ltd.,
		Diamond	Pheonix Appliances Pvt. Ltd.
		Jindal	Centuary polytech
		Nilkanth	Nilkant
		Nirali	Jyoti (India) matel Industries Pvt Ltd.
		Hindware	HSIL Ltd
		Silver shine	Blue stone sanitary Industries Pvt. Ltd.
		Joyna	Joyna
		Navkar	Shri Navkar Metals Ltd.
		Franke	Franke India Ltd.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Futura	Futura Kitchen Sinks India Pvt. Ltd.
91	Centrifugally Caste (Spun) Iron Soil Pipes	Neco	Jayaswal Neco Ltd
		SKF brand	SKF Industries
		HEPCO	Hepco
		Bengal Iron Corporation	Bengal Iron Corporation
		Neco	Jayaswal Neco Ltd.
		RPMF	Raj Pattern Makers and Founders Pvt. Ltd.
92	PE-AL-PE Composite pipes	Kitec	Kitec Industries (India) Pvt. Ltd.
93	G I Pipes	TATA	TATA Steel Ltd.,
		Zenith	Zenith Birla (India) Ltd.
		HISSAR	HISSAR
		Jindal	Jindal Pipes Ltd.,
94	G I Pipe fittings	Zoloto	Zoloto Industries
		Unik	Unik malleables
		HB	HB Industries
		ICS	Sgree samarth Engineers
95	Water supply Valves	Zoloto	Zoloto Industries
		leader	leader valves Ltd.,
		ARCO	Arco valves Pvt. Ltd.,
		Nanda	Nanda Miller company
96	CPVC pipes and fittings	Supreme	Supreme Industries Ltd.
		Finolex	Finolex Industries Ltd.
		Astral	Astral Polytechnik Ltd.,
		Prince	Prince Pipes and finttings Ltd,.
		Truflo	HIS Ltd.
		Birla Aerocon	HIL Ltd.
		Ashirwad	Ashirwad PVC Pipes
		Flowgard	Flowgaurd
97	PVC / HDPE water storage tanks	Sintex	Sintex plastic technology Ltd,.
		Vectus	Vectus Industries Ltd.
		Supreme	Supreme Industries Ltd.
98	DI Pipes	Electrosteel	Electrosteel
		Jindal	Jindal
		Tata Ductura	Tata Ductura
		Kapilansh	Kapilansh
		Keshoram	Keshoram
99	DI Fittings	Electrosteel	Electrosteel
		Jindal	Jindal

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Tata Ductura	Tata Ductura
		Kapilansh	Kapilansh
		Keshoram	Keshoram
100	Watersupply fixtures like bibcock, Shower panels	Jaquar	Jaquar Group
		Parryware	Roca bath room products Pvt. Ltd,
		Metro	Metro sanitations Pvt. Ltd.,
		Waterman	Kewal brothers
		Seiko	Seiko Sanitations
		Prayag	Prayag polymers Pvt Ltd.,
		Kingston	Kingston brass India
		Johnson	Prism Jhonson Ltd
		MARC	MARK Showers
		HINDWare	HSIL Ltd.
101	Air release valve	Kirloskar	Kirloskar brothers Ltd.,
		RBM	AFS Ltd.,
		Kartar	Kartar valves private Ltd.,
102	Centrifugally (Spun) Cast Iron	Lanco/Sripipes	Electrosteel castings Ltd.
		Jindal	Jindal saw Ltd.
		Kesoram	Kesoram Industries Ltd.
		Electrosteel	Electrosteel castings Ltd.
103	Spun cast iron fittings	Neco	Jayaswal Neco Ltd.
		Kartar	Kartar Valves Private Ltd.
		Electrosteel	Electrosteel castings Ltd.
		Kapilansh Centrifugal	Kapilansh Dhatu Udyog(P)Ltd.
		SKF brand	SINGHALIRON FOUNDARY Pvt. Ltd.,
104	CI double flange sluice valve	Kirloskar	Kirloskar brothers Ltd.,
		RBM	AFS Ltd.,
		Kartar	Kartar valves private Ltd.,
		IVS	Indian valves private Ltd.,
		Zoloto	Zolota Industries
		BURN	BURN
		Leader	Leader valves Ltd.
105	CI double flanged non return valve	Kirloskar	Kirloskar Brothers Ltd.,
		Fluidtech	Fluidtech
		Zolto	Zolota Industries
106	Gun metal Valves	Zolto	Zolota Industries
		Leader	Leader valves Ltd.
		Sant	Sant valves Pvt Ltd,
		Audco	L&T Valves
107	PTMT/PVC water supply sanitary fittings, bibcocks, pillar cock, Angle valve, Stop Valve	PEARL	Precision Products
		Prayag	Prayag Polymers (P) Ltd
		Supreme	Supreme Industries

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

108	RCC Pipes	Indian Hume Pipe	Indian Hume Pipe Ltd.,
		Madurai spun pipe	Madurai spun pipe company
		Lakshmi Sood & Sood	Lakshmi Sood & Sood Pipe Co.
		Jain & Co	Jain spun pipes Co.,
109	CI Manhole cover	Neco	Jayaswal Neco Ltd.,
		HEPCO	
		BIC	Bengal iron corporation
110	SFRC Cover and grating	KK	KK Manhole and gratings Co Pvt Ltd.,
		Advent	Advent concrete vision
		Kutty	Kutty Industries
		Nu-TEC	Nu-Tech concrete products (P) Ltd,.
111	Plastic Encapsulated Foot Rest	KK India	KK Manhole and gratings Co Pvt Ltd.,
		KGM	KGM Exports .
		Accurate Buildcon	Accurate Buildcon company.
112	Spun cast iron covers & gratings	Neco	Jayaswal Neco Ltd
		Jagannath	Sri Jagannath Iron Foundry Pvt. Ltd.
		Kapilansh Centrifugal	Kapilansh Dhatu Udyog(P)Ltd.
		SKF brand	SINGHALIRON FOUNDARY Pvt. Ltd.,
113	Aluminium doors/windows sections	Hindalco	Hindalco Industries Ltd.,
		jindal	jindal Aluminium Ltd.,
		Padmavathi Extrusion	Padmavathi Extrusion Private Ltd.
		Hyd	Hydro Extrusion
		Omalco Extrusion	Omalco Extrusion Pvt. Ltd.
		Bhoruka	Bhoruka Aluminium Ltd.,
		Indal	Indian Aluminium Ltd.,
114	Aluminium systems/ Anodised aluminium fittings for doors/windows	Define	Define Overseas Pvt. Ltd.
		Schueco	Schueco India Pvt. Ltd.,
		Bhoruka	Bhoruka Aluminium Ltd.,
		Kawneer	Kawneer India
		Hardima	Hardima sales corporation
		Everite	Everite Agencies
		Jyothi	Jyothi Industries
		Sigma	Sigma Corporation
115	Friction stay hinges	Earl Bihari	Earl Bihari Pvt. Ltd.
		KINLONG	Kinlong Industries
116	EPDM Gaskets	Anand	Anand NVH products (P) Ltd.,
		Roop	Roop Polymers Ltd.,

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Bohra	Bohra rubber Pvt Ltd.,
		Hanu	Hanu Industries
		Amee Rubber	Amee Rubber Industries Pvt Ltd.
117	Silicon Gaskets	Sree Gaurav	Sree Gaurav Rubber products
118	Masking Tapes	3M	3M
		Sun	Sun
		Wonder polymer	Wonder Tape Industries
		Roop	Roop Polymers Ltd.,
119	Water proofing compound	Fosroc	Fosroc India
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Sika	Sika India
		MYK Schomburg	MYK Arments range of products
		Penetron	Penetron India Pvt.Ltd
		Dr. Fixit	Pidilite Industires
		Accoproof	ACC cements Ltd.,
		Ardex Endura	Ardex Endura (India) Ltd
		Alchemica	Alchemica Ltd.
120	Membarane Water proofing system	BASF	BASF India Ltd.,
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		STP Ltd	Shalimar Tar Products
		MYK Schomburg	MYK Arments range of products
		Asian paints	Smart Care Water Proofing products
		Dr. Fixit	Pidilite Industires
		Alchemica	Alchemica Ltd.
		Ardex Endura	Ardex Endura ltd
		Hydro tech	Hydro tech Ltd
121	Chemical water proofing system	BASF	BASF India Ltd.,
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		MC-Bauchemie	MS-Bauchemie India Ltd.,
		Sika	Sika India
		Sunanda speciality coating	Sunanda speciality coating Pvt Ltd.
		Perma construction Aid	Perma construction Aid Pvt Ltd,
		Fosroc	Fosroc India
		Dr. Fixit	Pidilite Industires
122	Water stops	Hydrotite	Sika India
		BASF	BASF India Ltd.,
		Dr. Fixit	Pidilite Industires
		Ardex Endura	Ardex Endura ltd
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Hydroswell	Sika India
123	Aluminium composite panels	Alucobond	3A Composites India Pvt.Ltd.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Eurobond	M/S Euro panel products Pvt. Ltd.
		Aludecor	M/S Aludecor Lamination Pvt. Ltd.
		Reynobond	Reynobond
		Alpolic	Alpolic
		Alstrong	Alstrong
124	PVC Perforated Pipes	Rex Polyextrusion	Rex Polyextrusion Ltd,
		Akash Enterprises	Akash Enterprises
		Zenplas Pipes	Zenplas Pipes Pvt. Ltd.,
		Supreme	Supreme Industries
125	Play Equipements	Koochie Play	Koochie Play Systems Pvt. Ltd,
		Playworld Systems	Playworld Systems India
126	Structural Sealant	Dow corning	Dow corning India
		Wacker	Wacker Silicones.
		GE	GE Silicones
		STP Ltd.	Shalimar Tar Products
		Asian paints	Smart Care Sealant
		Fosroc	Fosroc India
		BASF	BASF India Ltd.,
127	Poly-sulphide sealant	Dr. Fixit	Pidilite Industries Ltd,
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		MYK Schomburg	MYK Arments range of products
		Pidilite	Pidilite Industeries
		STP Ltd.	Shalimar Tar Products
		Fosroc	Fosroc India
		Techseal	Choksey Chemical Pvt. Ltd,
		Tuff seal	Bondit construction Chemical
128	Bitumen Impregnated Board	Shalitex	Shalimar Tar Products
129	Polyethylene backer rod	Supreme	Supreme Industries
130	Epoxy	Fosroc	Fosroc India
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Shalibons	Shalimar Tar Products
		Asian paints	Asian Paints
		Ardex	Ardex Endura (India) Pvt. Ltd,.
131	Weather Silicon make and grade	Dow corning	Dow corning India
		Momentive (GE)	GE Silicones
132	GRC Jali	Terrafirma	Terrafirma GRC Industries
		Ecovision	Ecovision Industries Pvt. Ltd.,
		Mahesh GRC	Mahesh Prefab Pvt Ltd.,
133	Air transfer grills	Cool grills	Cool grills, Pune
		Systemair India	Systemair India Pvt. Ltd.,

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

134	Ready made/ Gysum Plaster	Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Gyproc Cute 100	Gyproc India
		Ultrtech	Ultratech cements Ltd.
135	Steel Windows/Pressed Steel Frames	Madhu Industries,	Madhu Industries, San Harvic, NCL
		San Harvic,	San Harvic
		NCL	NCL Industries
136	PVC Door Frames & Shutters	Rajshri	Rajshri Productions Pvt. Ltd.
		Plastiwood	Plasiwood
		Sintex	Sintex plastic technology Ltd,.
		Accucel	Accura Polytech Pvt.Ltd
137	PVC Flooring	LG Hausys	LG Hausys
		Ger flor	Gerflor flooring
		Armstrong	Armstrong World Industries
138	Grass Paver	Unistone	Unistone
		Ultra	Ultra Ltd.
139	FRP Door Frames & Shutter	Meena Fibre Glass,	Meena Fibre Glass
		Duroplast	Duroplast extrusion Pvt Ltd
		Cactus	Cactus
		Polyline.	Poluline
140	Nom Metalic Floor Surface Hardners	Ironite	Ironite
		Hardonite,	Hardonite
		FOSROC	Fosroc India
		SIKA	SIKa India
		BASF	BASF India Ltd.,
		CICO,	CICO Technologies Ltd.,
		Pidilite	Pidilite Industries Ltd,
141	PU Enamel Metalic Paints on MS Structure & Epoxy paints (Premium Quality)	SKK	SKK Ltd.
		Akzonobel	Akzonobel
		Asian	Asian Paints
		Berger,	Berger paints India Ltd.
		MRF	MRF Paints
142	Rockwool/Glasswool insulation	Twigafiber, ,	Twigaifiber glass ltd
		Llyod Insulation	Llyod Insulation Ltd.
		Supereme	Supereme Industries ltd

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

143	Actactic Polypropylene (APP) Modified Water proof Membrane	STP	Shalimar Tar Products
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Bitumat Co. Ltd,	Bitumat Co. Ltd,
		Pidilite	Pidilite Industries Ltd,
		Ardex Endura	Ardex Endura
		Hydrotech Ltd.	Hydro tech Ltd
144	Structural Glazing	Modi, ,	Modi Guard
		Saint Gobain	Saint Gobain Glass India Ltd.,
		Asahi,	Asahi India glass Ltd,
		Glaverbel.	Glaverbel India
145	Sensor Based Auto flush Systems	AOS Systems,,	AOS Systems
		TOTO	TOTO Ltd
		Parryware,	Parryware Sanitaryware
		Hindware,	HSIL Ltd
		Grohe,	Grohe
		Jaquar	Jaquar Group
		Kochier	Kochier
146	Float Valve (Ball Valve)	Prayag,	Prayag Polymers (P) Ltd
		Leader,	Leader valves Ltd.
		Zoloto,	Zolota Industries
		IBP	IBP Industries
		,Arco	Arco valves Pvt. Ltd.,
147	Spider Patch Fittings for Structural Glazzing	Dorma,,	Dormakaba
		Sevax	Saint Gobain Glass India Ltd.,
		,Kich	Kich India
		,Ozone	Ozone Ltd
		Hafele	Hafele Ltd
148	Multi Walled Polycarbonate Roofing Sheets	Danpalon	Danapal Light architecture
		Lexan GE	GELexan
149	Adhesive for AAC Block /Tiles	Ultrtech	Ultratech cements Ltd.
		Ardex Endura/Gold Star	Ardex Endura
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
150	Aluminium Framework	MFE(MIVAN)	MIVAN
		S-Form	S-Form
		MFS	MFS
151	EPDM Water Proofing Membrane	Smart Care	Asian Paints
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		Pidilite	Pidilite Industries
		STP	Shalimar Tar Products
		Fosroc	Fosroc India
152	PU Coating (UV Resistant Liquid Applied Coating	Smart Care	Asian Paints
		Pidilite	Pidilite Industries
		BASF	BASF
		Fosroc	Fosroc India
		SIKA	SIKa India
153	Polyurea Ultroh	Smart Care/Ferrous Crete	Asian Paints
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		BASF	BASF
		SIKA	SIKa India
		Pidilite	Pidilite Industires
154	Modular Kitchen /Wardrobes/Hardware and Accesseries	Sleek	Asian Paints
		Godrej	Godrej & Boyce Co.
		Spacewood	Spacewood
		Evoke	Evoke
155	High end Exterior Textures	Allura/Graniza Range	Asian Paints
		SKK Brand	SKK Ltd.
		Berger	Berger paints India Ltd.
156	Acrylic Exterior Textures	Asian paints	Asian Paints
		Berger	Berger paints India Ltd.
		Akzonobel	Akzonobel
		Ebco	Ebco
		Neroloc	Nerolac Paints Ltd
157	Puff Insulations	Smart Care	Asian Paints
		Llyod Insulation	Llyod Insulation (India) Ltd.
		Fosroc	Fosroc India
		BASF	BASF
		Pidilite	Pidilite Industries Ltd.
		Supreme	Supreme ltd
158	GP Grout	Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Asian paints	Smart Care SC GP Grout Grey
		BASF	BASF
		Pidilite	Pidilite Industries Ltd.
		Care	Care
		SIKA	SIKa India
159	Galvolume sheet for roofing, cladding, Sandwitch panel	Llyod Metal Craft	Llyod Insulations.
		Tata Blue Scope	Tata Bluescope
		Bhushan	Bhushan steel

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

		JSW	JSW
		Essar	Essar group
160	Mechanical coupler for Reinforcement	Dextra	Dextra India Pvt. Ltd
		Sanfield	Sanfield India Ltd
161	Aluminium composite panels	Hynadecor	Hynadecor
		Alstone	Alstone
		Eurobond	Eurobond Pvt.Ltd.

NOTE:

1) Equivalent material and finishes of any other specialized make may be used on written request of the contractor, in case of unavoidable circumstances and also if it is established that the brands specified above are not available in the market, after written approval of the alternate brand by the Superintending Engineer-in-charge. This substitution shall be subject to cost adjustment in case the substituting brand is available at cheaper rates in market than those mentioned herein above.

2) In addition, above brands wherever applicable, should have valid and active BIS certificate on the date of supply for the work.

3) Other brands not included in the above list but having BIS certificate on the date of supply for the work shall only be allowed against note (1) above.

4) Equivalent material and finishes of any other specialized make may be used, in case it is established that the brands specified above are not available in the market but only after approval of the alternate brand by the Competent Authority/ NIT Approving authority.

9. SCHEDULE OF QUANTITIES

Name of Work: **Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment of Conference Hall at First Floor of Nirman Bhavan.**

SLNo	Description	Qty	Unit	Rate	Amount
1	Providing and laying cement concrete 1 :5: 10 (1 cement 5 coarse sand :10 graded brick aggregate 40mm nominal size) for sunken floor filling excluding the cost of centering and shuttering upto floor five level.	0.81	cum	6516.12	5278
2	Providing, hoisting and fixing up to plinth level and above plinth Level up to floor five level precast reinforced cement concrete in shelves, including setting in cement mortar 1:3 (1cement : 3 coarse sand), cost of required centering, shuttering and finishing with neat cement punning on exposed surfaces but , excluding the cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size).	0.59	cum	18571.68	10957
3	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete -Thermo-Mechanically treated bars of grade Fe 500 D from primary producers.				
3.1	Above plinth level	47.20	kgs	90.18	4256
4	Providing and fixing 18mm thick machine cut mirror polished (premoulded and prepolished) machine cut for kitchen platforms, vanity counters ,window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing moulding and polishing to edge to give high gloss finish etc. complete at all levels.				
4.1	Jet black, Cherry red, Elite brown, Cat Eye granite slab of approved shade or equivalent.				

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

4.1.1	Area of slab of required size	1.37	sqm	4328.26	5930
5	Providing and fixing Ist quality ceramic glazed wall tiles 300 X 450 mm conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete	17.14	sqm	1112.72	19072
6	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
6.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	6.00	sqm	3265.87	19595
7	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured):				
7.1	Rectangular or square	6.00	sqm	187.87	1127
8	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm) with double speed adjustment with necessary accessories and screws etc. complete.	3.00	each	919.73	2759
9	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete:				
9.1	250x16 mm	3.00	each	250.24	751

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

10	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade,with necessary screws etc.complete :				
10.1	150 x 10 mm	16.00	each	81.00	1296
11	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
11.1	125 mm	12.00	each	64.42	773
12	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.				
12.1	Twin rubber stopper	3.00	each	67.01	201
13	Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete.				
13.1	Double strip (horizontal type)	20	each	33.53	671
14	Providing and fixing 18 mm thick prelaminated Plywood shutters and shelves for Cupboard with necessary screws and stainless steel butt hinges, complete as per direction of Engineer-in-Charge.	16.15	sqm	2830.48	45712
15	Providing and laying vitrified floor tiles (Double Charged) in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.				
15.1	Size of Tile 600x600 mm	37.13	sqm	1620.59	60173

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

16	Providing and fixing PVC corner beading to ceramic tile dado of required colour to match the shade of tiles as directed by the Engineer-in-charge etc. complete.	16.80	Meter	48.57	816
17	Providing & Fixing of Armstrong or equivalent Mineral Fibre Acoustical Suspended Ceiling System with Visual V49 (Bevelled Tegular) EDGE TILES WITH 15mm Exposed GRID. The tiles should have Humidity Resistance (RH) of 70%, NRC 0.5, Light Reflectance NA%, Thermal Conductivity k = 0.052 - 0.057 w/m K, Colour White, Fire Performance Euroclass A2-s1 d0 in module size of 600 x 600 x 17mm with , suitable for Green Building application, with Recycled content of 70%. The tile shall be laid on Armstrong Suprafine 32 with 15 mm wide T - section flanges colour white having rotary stitching on all T sections i.e. the Main Runner, 1200 mm & 600 mm Cross Tees with a web height of 32mm and a load carrying capacity of 7.5 Kgs/M2 & pull out strength of minimum 100 Kgs.. The T Sections have a Galvanizing of 90 grams per M2 and need to be installed with Suspension system of manufacturer make .				
	INSTALLATION: To comprise main runner spaced at 1200mm centres securely fixed to the structural soffit using manufacturer suspension system (specifications below) at 1200mm maximum centre. The First/Last suspension system at the end of each main runner should not be greater than 450mm from the adjacent wall. Flush fitting 1200mm long cross tees to be interlocked between main runners at 600mm centre to form 1200 x 600 mm module. Cut cross tees longer than 600mm require independent support. 600 x 600mm module to be formed by fitting 600mm long flush fitting cross tees centrally between the 1200 mm cross tees. Perimeter trim to be wall angles of size 3000x19x19mm, secured to walls at 450 mm maximum centres.				

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

	SUSPENSION SYSTEM accessories are manufactured and supplied by manufacture approved by the Engineer in charge. World Industries consisting of M6 Anchor Fasteners with Vertical Hangers made of Galvanised steel of size 26 x 26 x 25 x 1.2mm with a Galvanised Thickness of 80gsm, A pre Straightened Hanger wire of dia – 2.5 mm of 1.8 m length., thickness of 80gsm and a tensile strength of 344-413 MPa, along with Adjustable hook clips of 0.8mm thick, galvanised spring steel for 2.68 mm with a minimum pull strength of 110 kg. The adjustable clip also consists of a 3.5 mm aquiline wire to be used with the main runner.	33.08	sqm	3804.06	125838
18	12 mm cement plaster of mix :				
18.1	1:6 (1 cement: 6 coarse sand)	4.44	sqm	284.63	1264
19	15 mm cement plaster on rough side of single or half brick wall of mix:				
19.1	1:6 (1 cement: 6 coarse sand)	4.44	sqm	328.21	1457
20	Distempering with **1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre**, of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.				
20.1	Two or more coats on new work	135.19	sqm	94.12	12724
21	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
21.1	Two or more coats on new work	5.40	sqm	131.27	709
22	French spirit polishing :				
22.1	Two or more coats on new works including a coat of wood filler	29.52	sqm	379.24	11195
23	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	22.93	sqm	124.36	2852

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

24	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				
24.1	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	23.08	sqm	64.80	1496
25	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq.meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.				
25.1	With cement mortar 1:4 (1cement: 4 coarse sand)	4.02	sqm	463.97	1865
26	Fixing chowkhat / Cupboard shutters with frame in existing opening in brick/ RCC wall with dash fasteners/Chemical fasteners of appropriate size (3 nos on each vertical member of door chowkhat and 2 nos on each vertical member of window chowkhats), including Cost of dash fasteners/ chemical fastener and screws etc., complete as per direction of Engineer in charge.	10.00	each	209.47	2095
27	Dismantling W.C. Pan/washbasin/PVC Flush tank/SS Sink of all sizes including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in- Charge.	3	each	103.68	311
28	Dismantling 15 to 40 mm dia G.I. pipe including stacking of dismantled pipes (within 50 metres lead) as per direction of Engineer- in-Charge.				
28.1	(a) Internal Work- Exposed on wall	5.00	metre	2.92	15
29	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	1.80	cum	2737.48	4927
30	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-in-charge.				

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

30.1	In cement mortar	5.58	cum	1587.49	8858
31	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
31.1	Of area 3 sq. metres and below	10.00	each	296.46	2965
32	Dismantling tile work in floors, walls and roofs laid in cement mortar including stacking material within 50 metres lead.				
32.1	For thickness of tiles 10 mm to 25 mm	54.27	sqm	59.24	3215
33	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	14.12	cum	149.96	2117
34	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
34.1	Kitchen sink with drain board				
34.1.1	510x1040 mm bowl depth 250 mm	1.00	each	5568.43	5568
35	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1.00	each	1385.69	1386
36	Providing and fixing towel rails with brackets fixed to wooden cleats with CP brass screws CP brass towel rail with Two CP brass brackets 600x20 mm of approved quality and Manufacturer specification	1.00	each	1404.65	1405

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

37	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete... 100 mm inlet and 75 mm outlet - PVC floor trap (Supreme or equivalent) With SS Grating	1.00	each	978.93	979
38	Providing and fixing unplasticised Rigid SWR pipes Type-B, minimum 4.0mm wall thickness including pasting of joints (i) Single socketed pipes.				
38.1	75 mm diameter O.D	3.00	metre	210.21	631
39	Providing and fixing on wall face SWR unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type B, including pasting of joints as per the direction of Engineer in charge.				
39.1	Single tee with access door				
39.1.1	75x75x75 mm	1	each	141.69	142
40	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Exposed/Concealed work including cutting chases and making good the walls etc.,				
40.1	25 mm nominal outer dia .Pipes.	3.00	metre	606.91	1821
40.2	32 mm nominal outer dia .Pipes.	2.00	metre	733.48	1467
41	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
41.1	32 mm nominal bore.	1.00	each	627.75	628
42	Providing and fixing C.P. brass Swanneck Pillat cock 15 mm nominal bore With lever hande for Lab Sink of approved quality conforming to IS standards complete	2.00	each	1739.32	3479

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

43	Providing and fixing Polyvinyl Chloride (PVC) pipes,SCH 40 pipe pressure having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. 40 mm Nominal bore For Waste Water line Wash Basin & Sink. Concealed work including cutting chases and making good the walls etc.,	2.00	metre	557.54	1115
44	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
44.1	For fixed portion				
44.1.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	2.16	kg	492.80	1064
45	Providing and fixing 4 mm thick 100mm wide frosted glass louvers in Aluminium frames of ventilators including fixing of necessary U clips/grooves/slits in frames and fixing the glass louvers etc. complete as per architectural drawing and as directed by the Engineer-in-charge. (Area of clear opening between the aluminium frames will be measured for payment.)	0.29	Sqm	1243.36	361

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

46	**CONFERENCE TABLE :** Overall size : 5400mm (L) x1500mm (D) x750mm (H) . The Top & Leg made of 36mm thick pre laminated particle board with 2mm thick PVC edge beeding the double modesty pannels are made of 18 mm thick pre lam particle board duly edge banded with 2mm thick PVC edge beeding having a two nos. pop up box for ebco make with out elctrical and data socket	1	each	90478.04	90478
47	**Conference Chair model Gatsy** : The chairs are height adjustable and revolving. The seat moulded foam cushion. and back portion of the chair will be made of nylon mesh back rest . Five legged fibre base mounted on twin Castor wheels. With Hydraulic gas lift for height adjustment.	17	each	4348.29	73921
48	**Executive Chair Model Sunny High Back** . The chair are Glass filled nylon base with twin wheel nylon castors and Gaslift for hydraulic height adjustment, T Type adjustable PU armrest .back :ABS with mesh upholstery Synchro tilt mechanism with inbuilt lumbar support, The seat portion of the chair PU moulded cushion with approved fabric.	1	each	17058.71	17059
49	Providing and fixing Vertical blinds with 100/89mm wide imported superior polyster base fabric vanes with scotch guard application as per approved sample,make of Vista levellor or equivalent and the ranges of louver shall be in select and classic'.The vertical blinds shall have a head rail of extruded anodised high strength aluminium alloy, shall be 25mm x 50mm high or equivalent with thickness of 1.2mm or equivalent. End control unit consists of reduction gearbox for a very smooth operation of the blind. This unit consists of planetry gear in the outer housing, four small transmission gears fitted in the middle assembly and a end receiving gear attached to central sprocket unit. Tilter chain is made of 4.5mm plastic beads moulded on 2.2mm thick polyster card. The pitch of the beads is 6mm.The end control unit have the facility to rotate the louver by 180degress.	8.10	sqm	1079.72	8746

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

50	Taking back into contractor's account, the dismantled wooden door/window shutters with frame & Grill if anyby giving credit to the Government.	8.00	each	-240.00	-1920
51	Taking back into contractor's account, the dismantled G.I/ CPVC pipes- 15mm to 40mm dia by giving credit to the Government.	5.00	Mtr	-20.00	-100
52	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.				
52.1	Cement mortar 1:4 (1 cement :4 coarse sand)	4.44	sqm	1006.67	4470
53	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.60 mm in both directions with wire of dia. 0.42 mm alround fixed with Aluminium 40mm wide glazing clipand necessary screws all complete as direction of the Engineer in charge.	0.50	sqm	1313.65	657
	Grand Total			**Rs.**	**576627**

Assistant Engineer
PCSD-III, CPWD, Puducherry

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE

10. MAIN ABSTRACT

Name of Work:- **Appointment of comprehensive Architectural Consultant for establishment at JIPMER campus, Sedarapet, Puducherry. SH:- Establishment** of Conference Hall at First Floor of Nirman Bhavan**.**

Name of the Contractor					
Sl. No.	**Name of component**	Estimated cost	Percentage above or below the estimated cost	% in Figures	Total Cost
1	**Civil Estimated Cost = Rs. 5,76,627/-**	576627	At Par		576627
	Grand Total				576627

IMPORTANT NOTE :

1. The Estimated Cost Put to Tender has been worked out by taking into consideration the Cost Index of Pondicherry thereby **enhancing by 08.00% for DSR 2018 Items Only in Civil component Items and Considering the Non schedule items as LMR based on Market Rates for LMR items.**
2. The bidder is required to quote a single consolidated Percentage only above / below Estimated Cost to cover all the rates of all the items under the Schedule of Tender. This column & % in Figures should not be left blank, otherwise the tender shall be treated as INVALID.
3. The Percentage shall be typed only in figures upto 2 (two) places of decimal along with algebraic sign.
4. The bidder shall enable the macros before entering the figures, to be see the quoted percentage and amount in words.
5. If the Percentage quoted both in words and figures are not clear, or if the rate is not quoted in Percentage, the offer will be treated as INVALID.

Signature of Contractor :
Name :
Date :
Postal Address :
E-Mail ID :

Assistant Engineer
PCSDIII, CPWD, PUDUCHERRY-6

CORRECTION ----NIL---- INSERTION ----NIL----

CUTTING ----NIL---- OVERWRITING ---NIL---- AE