NOTICE INVITING TENDER

Name of work: **Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.**

NIT NO. 24/EE (C) Puducherry-II/CPWD/Puducherry/2026-27

Estimated Cost: Rs. 44,58,395/-

EMD: Rs.89,168/-

Time for Completion: Ninety (90) Days.

Last date of bid Submission: 27.11.2026

NIT invited by Executive Engineer (C) Puducherry-II, Central Public Works Department, Puducherry.

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL----

EE(C) Pdy-II

1. INDEX

Name of work: **Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.**

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The NIT approved for Rs.44,58,395/-
(Rupees Forty-Four Lakhs Fifty-Eight Thousand Three Hundred and Ninety-Five Only)

Executive Engineer (C), Puducherry-II,
CPWD, Puducherry

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C) Pdy-II

PART- A

2. NOTICE INVITING e- BIDS

The Executive Engineer(C), Puducherry-II, CPWD, Puducherry (Phone No:0413-2272059, Email ID: pdyee-ppd@cpwd.gov.in) on behalf President of India invites online Percentage rate composite bids (Single bid system) from the **approved and eligible contractors of CPWD** for the following work: -

NIT No.	**24/EE (C) Puducherry-II/CPWD/Puducherry/2026-27**
Name of work:	**Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.**
Estimated Cost:	**Rs.44,58,395/-**
Earnest Money:	**Rs. 89,168/-**
Period of Completion	**Ninety (90) Days.**
Last time and date of submission of Bid	**up to 15.00 Hrs. 27.11.2026**

The Bid forms and other details can be obtained from the Web Site **https://etender.cpwd.gov.in**

Executive Engineer (C) Puducherry-II,
CPWD, Puducherry.

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C) Pdy-II

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

The Executive Engineer(C), Puducherry-II, CPWD, Puducherry (Phone No:0413-2272059, Email ID: pdyee-ppd@cpwd.gov.in) on behalf President of India invites online Percentage rate composite bids (Single bid system) from the **approved and eligible contractors of CPWD** for the following work: -

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.	Period during which Original EMD shall be submitted for receipt	Date and time of opening of bid
1	2	3	4	5	6	7		8
1	**24/EE (C) Puducherry-II/CPWD/Puducherry/2026-276**	Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.	**Rs.44,58,395/-**	**Rs. 89,168/-**	**Ninety (90) Days.**	**Upto15.00 Hrs. on** 27.11.2026	**Up to 14.30 Hrs. on** 27.11.2026	27.11.2026 **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 https://etender.cpwd.gov.inor www.cpwd.gov.in free of cost.**

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 **Insurance Surety Bonds, Account Payee Demand draft or Bankers Cheque or Fixed Deposit Receipts or/and Bank Guarantee(for balance amount as prescribed) from any of the Commercial 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 who are not registered or have not updated their profile on the website mentioned above, are required to get registered / update their profile beforehand. The necessary training materials including the videos with step-to-step process are available on download section of https://etender.cpwd.gov.in.**
6. **The intending bidder must have valid class-III digital signature certificate with encryption key (combo type) to perform any operations / transactions on the e-tendering portal / website and the bidder should download and install the eMsigner on their system as per instructions available on download section of https://etender.cpwd.gov.in.**
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 **yellow** 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. The existing enlisted contractor either himself or his authorized representative shall take compulsory ERP (Enterprise Resource Planning) training through any of the CPWD Regional Training Institutes (RTIs) at Delhi, Mumbai, Chennai and Kolkata, National CPWD Academy (NCA) Ghaziabad, Training arranged by Graduates of ERP "Train the Trainers Programme" conducted by NCA, Ghaziabad or through any other

special training arranged by ERP unit of CPWD before last date of submission of Bids. Training will be valid only when participants are registered in LMS (Learning Management System) of ERP and certificate is issued through LMS of ERP. From 01.07.2024, the enlisted contractor will not be allowed to participate in the tendering process without uploading the certificate of above training. The bid uploaded without attaching the certificate of ERP Training will not be considered for opening of Technical Bid and such bids will be REJECTED.

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

MANDATORY DOCUMENTS

1) Copy of receipt for deposition of original Earnest Money Deposit (EMD) issued from Division Office of any Executive Engineer, CPWD.
2) **Banker's Cheque of a Commercial Bank /Account Payee Demand draft of a Commercial Bank /Fixed Deposit Receipt (FDR) of a Commercial Bank / Insurance Surety Bonds / Bank Guarantee (for balance amount as prescribed) from a Commercial Bank against EMD** [**drawn in favour of "Executive Engineer (C) Puducherry-I, CPWD, Puducherry"**]. Not necessary in case already these are deposited in original with the Executive Engineer opening the tender, with in period of tender submission.
3) CPWD Registration Certificate/Enlistment Order of the appropriate class.
4) Certificate of Registration for GST, and Acknowledgement of up to date filed return of GST, if already obtained by the bidder. If the bidder has not obtained GST registration as applicable, then he shall scan and upload following undertaking along with the bid document
   "If work is awarded to me, I/we shall obtain GST registration certificate, as applicable, within one month from date of receipt of award letter or before release of any payment whichever is earlier, failing which I/we shall be responsible for delay in payments which will be due **towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard."**
5) **Form "G"** Valid Notarized Affidavit of **'Non-black listing by CPWD/State/Central Departments/PSU/Autonomous bodies'** on non-judicial stamp paper worth **Rs.100/-** duly signed by the authorized person of agency / firm**.**
6) **Form "I"** Declaration about site inspection as per prescribed format in NIT.
7) Certificate of ERP training as per CPWD O.M.DG/Enlist.Rules-2023/Misc./25 dated: 15.03.2024.

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

Document to be submitted after acceptance:

1) Licenses / Registrations or proof of applying for Labour licenses, registration with EPFO, ESIC & BOCW welfare Board.
2) Willingness certificate from concerned competent electrical contractor if required.

5. "Form F"- PRESCRIBED FORMAT OF RECEIPT OF DEPOSITION OF ORIGINAL EMD

Proforma for receipt of original EMD to be issued by an Executive Engineer of CPWD (in case of deposition of original EMD in his office by the bidder) including **Executive Engineer(C), Puducherry-II, CPWD, Puducherry** to the bidder.

(Receipt No ----------/ Date----------)

1.	Name of Work	**:**	**Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.**
2.	NIT No	**:**	**24/EE (C) Puducherry-II/CPWD/Puducherry/2026-27**
3.	Estimated Cost	**:**	**Rs.44,58,395/-**
4.	Amount of EMD	**:**	**Rs. 89,168/-**
5.	Last Date of Submission of bid	**:**	**27.11.2026**

PRESCRIBED FORMAT TO BE FILLED BY EMD RECEIVING OFFICER

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
(EE/AE(P)/AE/AAO) along with Office stamp

1) The Authority receiving EMD in original form examines the EMD deposited by the bidder and issues receipt of deposition of earnest money to the agency in a given format uploaded by tender inviting authority. The receipt can also be issued by any subordinate gazetted authority as authorized by the EE/ Engineer in Charge /DDH.
2) The authority receiving original EMD also intimates tender inviting authority about deposition of EMD by the agency by email/fax/telephonically.
3) **The earnest money given by all the tenderers except the lowest tenderer shall be refunded immediately after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier. However, in case of two/ three bid system earnest money deposit of bidders unsuccessful during technical bid evaluation etc. should be returned within 30 days of declaration of result of technical bid evaluation.**
4) The tender inviting authority calls for original EMD of the L1 tenderer from EMD receiving authority immediately.

6. FORM 'G'NON- BLACK LISTED AFFIDAVIT

Name of work: ***Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.***

NIT No: ***24/EE (C) Puducherry-II/CPWD/Puducherry/2026-27***

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 the department on any day before date of start of work, the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

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

Date:

Signature of Notary with seal

7. FORM I: DECLARATION ABOUT SITE INSPECTION

To,

The Executive Engineer (C), Puducherry-II
CPWD, Puducherry.

Sub: Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.

NIT No: 24/EE (C) Puducherry-II/CPWD/Puducherry/2026-27

Dear Sir,

It is hereby declared that as per **CPWD–6 FOR e-BIDDING,** I/ We the bidder inspected and examined the subject site and its surrounding and satisfy myself / ourselves as to the nature of the ground and sub-soil (so far as is practicable), the forms and nature of the site/ ourselves before submitting the bid, the accommodation which may require and all necessary information as to risks, contingencies and other circumstances which may influence or affect our bid have been obtained. I/We the bidder shall have full knowledge of the site and no extra charge consequent upon any misunderstanding or otherwise shall be claimed in later date.

I /We bidder shall be responsible for arranging and maintaining at 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 me/us implies that I / We have read this notice and all other contract documents and has made myself /ourselves aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.

Yours faithfully

(Duly authorized signatory of the bidder)

Signature of Assistant Engineer-(C)-II
O/o. EE(C), Puducherry-II, CPWD, Puducherry-06.

8. GENERAL INFORMATION

1. It shall be the responsibility of the successful bidder to maintain the security / watch and ward of the buildings to be dismantled if any, after taking over of the buildings and the Engineer- in-Charge is not responsible for any loss of materials from the site.
2. The successful bidder shall be responsible for any damage done in the demolition and indemnify the Government against any claim on account thereof including third party and workmen's Compensation claims. If any damage is done to any adjoining property, the Engineer-in-Charge shall be entitled to have the same put right at the risk and expense of the successful bidder or treat the default as a ground for terminating the contract.
3. The successful bidder shall acquire no interest in the land comprised in the said property except a permission to enter thereon for the purpose of the demolition only aforesaid & for construction of structure as per terms and conditions of this tender document and in particular shall not be entitled to reside or allow anyone to reside or remain on the property except watchman during the contract period/ extended contract period.
4. The work shall be executed without creating disturbance to the movement of the people on the adjoining roads. Care shall be taken to prevent dust spreading beyond the building to be demolished. The work shall be executed without making heavy sounds.
5. The work shall be executed in compliance with the complete labour act in force, regarding payment of minimum wages, advances, overtime, gratuity, provident fund, providing medical and other facilities and the safety measures to be taken as applicable as per the labour act.
6. The ground where the buildings are located shall be levelled without undulations and dressed neatly after completion of the work.
7. The contractor should appoint a full-time qualified person as safety-in-charge for taking care of implementation of safety system in order to safeguard the workers engaged for the demolition of the building. Any casualty during demolition shall be the responsibility of the bidder.
8. The contractor shall ensure the safety of the public / animals etc during the execution of the work. Necessary precautionary measures shall be taken.
9. The Cost of bid amount shall be net inclusive of cost of dismantling, disposal of all surplus materials and the cost of salvageable materials including the electrical installations and fittings etc.,
10. No explosives shall be used for dismantling of the buildings.
11. Labours shall not be permitted (Except staff of watch and ward) to stay inside the campus. The Contractor shall make necessary accommodation outside the campus for their labours. The labour movement should be restricted to the areas only where the work is to be carried out.
12. The demolishing of building work will be carried out in the manner complying in all respects with the requirements of relevant bye laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.
13. The Contractor shall carry out the work without disturbing / damaging the other existing structures and trees / plants etc which are not in the purview of the contract. Any damage/disturbance made by the contractor to the adjacent / nearby buildings / structures will be rectified at the risk and cost of the contractor.

14. The Contractor shall take instructions from the Engineer-in-Charge for stacking of materials. No excavated earth / building rubbish shall be stacked on areas where other buildings, roads, services, compound walls are existing.
15. The debris / building rubbish waste and the like as generated from the work spot should be taken out of respective site. All the waste and debris material should be disposed off the campus in a legal and environmentally friendly way as per contract.
16. The Contractor shall take all precautionary measures to safeguard against any accident for the contractors' employees, general public, supervisory staff of CPWD by providing necessary safety equipment e.g. MS sheet barricading for a minimum height of 10meter etc and Personal Protection Equipment e.g. helmets, safety shoes etc. at work site.
17. The Contractor shall abide by the restrictions, rules, regulations and timings imposed by the department on the working and on movement of labour, materials etc.
18. No temporary electrical connection shall be provided by the Engineer-in-charge/CPWD. The contractor shall make his own arrangement of temporary electrical connection from the Puducherry EB, fuel/generator for running of tools, plants and machinery required for demolition work. However, the department shall assist the agency in forwarding the application.
19. The Contractor shall make necessary arrangement to obtain photo id pass / group pass for entry of labours, materials, machinery and vehicle in to the respective site if necessary.
20. No one is allowed to enter into workspace and work site without adequate foot protection.
21. All the dangerous moving parts of the portable / fixed machineries being used shall be adequately guarded.
22. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited.
23. All unsafe conditions, unsafe acts identified by contractor, reported by site supervisors and / or safety personnel will have to be corrected immediately.
24. No children shall be allowed to enter the work pace.
25. Restrictions may be imposed by the security staff of client department etc., on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.
26. The department shall not be liable for any payment in respect of any damages or compensation payable accordingly to law in respect or in consequences of any accident or injury or loss of life to any workman or other person in the employment of the contractor or any sub-contractor. The contractor shall insure against such liability with an insurer approved by the employer for sum as per established norms during the entire period till the completion of the contract.
27. Unless otherwise specified in the schedule of quantities the rate tendered by the contractor for the items of the work shall be considered, as inclusive of pumping out or bailing out water, if required, for which no extra payments will be made. This will include water encountered from any source, such as rains, floods, sub-soil water table being high or due to any other cause whatsoever
28. **GST@ 18% and Labour Cess @ 1%etc., or any other tax applicable in respect of this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same. However 2% (TWO PERCENT) of the gross bill amount will be deducted at source, towards GST, from each running account and Final bill paid to the**

contractor by the Executive Engineer(C), Puducherry-II or his successors thereof as per the Section 51 of the GST Act 2017 and amended up to date of receipt of tender.

29. Statutory fees / connection charges pertaining to this work, if any paid to the local bodies or any other agency by the contractor shall be **reimbursed by** the Department on submission of vouchers/ bills / receipts issued by the various local bodies. The cost of restoration of any services damaged by the agency during execution shall however be borne by him.

30. **Maintenance / defect liability period** would be uniformly **One (1) year** from the date of completion of work in all respects & fit for occupation. However, maintenance of other activities such as cleaning, sweeping & de-silting of sewer lines, S.W. Drain shall be done once again, if required, at the time prior to handing over of completed work to the client department. The maintenance will be only limited to removal of defects noticed in the works carried out by the agency during defect liability period. The terms of Maintenance & liability period for Electrical subheads is as mentioned in the part - C for E & M works.

9. CPWD-6 FOR E- TENDERING

1. **Percentage rate** bids are invited on behalf of President of India from **approved and eligible Buildings & Road category contractors of CPWD** for the Work of **Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.**

   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. 44,58,395/-** 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.

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 **Ninety (90) Days.** 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. The architectural and structural drawings if any required, 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 **https://etender.cpwd.gov.in** ~~and e-Auction **https://eauction.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 **Insurance Surety Bonds, Account Payee Demand draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks** (**drawn in favour of Executive Engineer (C) Puducherry-I, 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 **Commercial** 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.

   The earnest money given by all the tenderers except the lowest tenderer shall be refunded immediately after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier~~. However, in case of two/ three bid system earnest money deposit of bidders unsuccessful during technical bid evaluation etc. should be returned within 30 days of declaration of result of technical bid evaluation.~~

   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 e-Tender notice shall have to be submitted by the lowest bidder 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.

The bid submitted shall be opened at **03.30PM** on **27.11.2026**.

10. The bid submitted shall become invalid 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 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 at specified percentage of the tendered amount as mentioned in Schedule E and** within the period specified in Schedule F. This guarantee shall be in the form of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks** 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: **Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.** 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 or any 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 (30) days** **from the due date of its opening** in case of single bid system/ 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 a for said. 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.

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

22. The intending bidders are required to update their profile in CPWD e- tender portal and to upload their bids well in advance of last date of submission of tender. Any issue related to updating profile / uploading tender can be resolved through the concerned Executive Engineer/ Assistant Engineer (e- mail Id: pdyee-ppd@cpwd.gov.in) or ERP help line no. 18001803286 or e-mail Id: cpwd.support@techmahindra.com. The e-tendering bidders are also advised not to wait to raise any issues till the last date of submission of bid in their own interest.

23. Price Preference to SC/ST individual contractor for item rate/percentage rate tender:
Price preference in quoted item rate/percentage rate tender shall be applicable to the individual enlisted/non-enlisted SC/ST contractor as under:

For work(s) upto and equal to an estimated cost of Rs.2.70 lakh a price preference upto 5% (with reference to the lowest valid tender) may be allowed in favor of individual SC/ST enlisted/non-enlisted contractor. No earnest money is required in such case(s).

For work(s) beyond an estimated cost of Rs. 2.70 lakh and upto and equal to estimated cost of Rs. 6.20 lakh, the price preference upto 5% (with reference to the lowest valid tender) may be allowed in favour of individual enlisted SC/ST contractor. However, earnest money at a reduce rate of ½ may be accepted in such cases.

The price preference upto 5% (with reference the lowest valid price bid) may be allowed in favour of individual SC/ST contractor only. The above concession shall be allowed only after proper verification of the individual contractor's claim of belonging to SC/ST community.

10. CPWD- 7

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT

STATE: **Tamil Nadu** CIRCLE: **SE (Puducherry)**

BRANCH: **B & R** DIVISION: **EE(C), Puducherry-II**

REGION: **SDG Chennai** SUB- DIVISION: **O/o AE –I**

Percentage Rate Tender & Contract for Works

Tender for the work of **" Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry. "**

i. **Bids to be uploaded by 15:00 Hrs on 27.11.2026.**
ii. To be opened in presence of bidders who may be present at **15.30 Hrs** 27.11.2026 **in the office of Executive Engineer (C) Puducherry-II, 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.

I/We agree to keep the tender open for **(30) Thirty days** from **the due date of its opening in case of single bid system** from the date of opening and not to make any modification in its terms and conditions.

I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document.

A copy of earnest money deposit **receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial 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 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 undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in 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.

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:-
(a)
(b)
(c)

For & on behalf of the President of India.

Signatures.....
Dated: Designation

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C) Pdy-II

On non- judicial stamp paper of minimum Rs.100

(Guarantee offered by Bank to CPWD in connection with the execution of contracts) FORM OF BANK GUARANTEE FOR EMD / PERFORMANCE GUARANTEE / SECURITY DEPOSIT / MOBILIZATION ADVANCE

1. Whereas the Executive Engineer ..... (Name of division) ....., CPWD on behalf of the President of India (hereinafter called "The Government") has invited bids under .....(NIT Number)..... dated ..... for ..... (name of work) .....The Government has further agreed to accept irrevocable Bank Guarantee for Rs. ..... (Rupees..... only) valid upto ..... (date*) ..... as **Earnest Money Deposit** from ..... (name and address of contractor) ..... (hereinafter called "the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.

OR **

Whereas the Executive Engineer ..... (Name of division) ....., CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number ..... with ..... (name and address of the contractor) .....(hereinafter called "the contractor") for execution of work ..... (name of work) .....The Government has further agreed to accept irrevocable Bank Guarantee for Rs. ..... (Rupees..... only) valid upto ..... (date) ..... as **Performance Guarantee** / **Security Deposit** / **Mobilization Advance** from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the Agreement.

2. We, ...(indicate the name of the bank)..... (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs. ..... (Rupees..... Only) on demand by the Government within 10 days of the demand.

3. We, ...(indicate the name of the Bank)....., do hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. 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)

4. We, ...(indicate the name of the Bank)....., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment thereunder and the Contractor shall have no claim against us for making such payment.

5. We, ...(indicate the name of the Bank)....., further agree that the Government shall have the fullest liberty without our consent and without affecting in any

manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor form 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 and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor 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. We, ... (indicate the name of the Bank) ....., further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

8. We, ...(indicate the name of the Bank)....., undertake not to revoke this guarantee except with the consent of the Government in writing.

9. This Bank 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..... only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date: .....
Witnesses:

1.	Signature	Authorized signatory
	Name and address	Name
		Designation
		Staff Code no.
		Bank seal
2	Signature	
	Name and address	

* Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of tender.

** In paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee / security deposit/ mobilization advance, as the case may be.

11. PROFORMA SCHEDULE

SCHEDULE 'A'

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

Civil - Page No. 121 - 123

SCHEDULE 'D'

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

SCHEDULE 'E'

Reference to General Conditions of contract. **GCC 2023 for Maintenance works as modified and corrected up to previous day of the last date of submission of tender.**

Name of work: **Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.**

Estimate cost of work	**Rs. 44,58,395/-**
i) Earnest money	**Rs. 89,168/- (to be returned after receiving performance guarantee)**
ii)Performance Guarantee	**(a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (Whichever is Higher)** **(b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.** **Ref.OM No.DG/CON/Maintenance/2023/18 Dt:27.02.2026**
iii) Security Deposit	**2.5 % of tendered value**

SCHEDULE 'F'

General Rules & Directions:

Officer inviting tender	**Executive Engineer (C) Puducherry-II/CPWD, Puducherry.**

Definitions:

2 (v)	Engineer- in- Charge for Civil:	**Executive Engineer (C) Puducherry-II/CPWD, Puducherry or his successor thereof**
2 (viii)	Accepting Authority	**Executive Engineer (C) Puducherry-II/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	**Civil: DSR-2023 with correction Slips / amendments issued upto previous day of the last date of submission of tender.** **Electrical: DSR-2025 as modified/ corrected up to the previous day of last date of submission of bids and Local Market Rates.**
2(xii)	Department	**Central P.W.D**

9 ii) **Contract Form**: Standard CPWD Contract Form **GCC 2023 for Maintenance works, CPWD Form 7/~~8~~ as modified and corrected upto previous day of the last date of submission of 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 there of from the date of issue of letter of acceptance	**7** days(The Performance Guarantee shall be submitted by the Contractor on format as per GCC 2023 and shall be initially valid up to the stipulated date of completion plus minimum 6 Months beyond that)
ii)	Maximum allowable extension with late fee @0.1% per day of performance Guarantee amount beyond the period provided in (i) above	**3** days with late fee @0.1% per day of performance Guarantee amount (Non-refundable)

Clause 2

Authority for fixing compensation under clause 2	**SE(Puducherry), CPWD, Puducherry or his successor thereof**

Clause 2A **Not Applicable**

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start	**Ten (10) Days (or) date of handing over of site whichever is later**

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

Civil:

S. No	Description of Milestone Physical	Time Allowed in Months (From the date of Start)	Amount to be with-held in case of non- achievement of mile stone (% of tendered amount of Civil Component)
1.	25 % Value of Work	20 Days	1.25 % of tendered amount
2.	50 % Value of Work	45 Days	1.25 % of tendered amount
3.	75 % Value of Work	65 Days	1.25 % of tendered amount
4.	100 % Value of Work	90 Days	1.25 % of tendered amount

Time allowed for execution of work **Ninety (90) Days.**

Authority to decide:

i)	Authority to convey the decision of shifting of milestone and extension of time	**EE(Civil)Puducherry-II, CPWD or his successor thereof**
ii)	Authority to decide rescheduling of milestone and extension of time	**SE(Puducherry)/ CPWD, Puducherry or his successor thereof**
iii)	Shifting of Date of Start in case of delay in handing over of site	**SE(Puducherry)/ CPWD, Puducherry or his successor thereof**

PROFORMA OF SCHEDULES Clause 5 Schedule of handing over of site

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	10 days
Part B	Portions with encumbrances	NIL	NIL
Part C	Portions dependent on work of other agencies	NIL	NIL

Clause 6 Computerized Measurement Book (CMB)/ Electronic Measurement Book (EMB) through CPWD ERP portal.	**EMB through ERP Portal**
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.15 Lakhs (Civil) ± Clause 12%**
Clause 7A Whether Clause 7A shall be applicable:	**Applicable (No running account bill shall be paid in the work till the applicable labour licenses, Registration with EPFO, ESIC, BCOW welfare board whatever applicable are submitted by the contractor to the Engineer-in-charge.)**
Clause 7B Payment to third party	**Applicable**

(If the exigencies of the work so demand, the engineer-in-charge may allow payment to a third party, who is creditor to the contractor, after fulfilling the following conditions.

(a) The contractor gives an authority letter addressed to the engineer-in-charge on a no judicial stamp paper of Rs.100 in the format given below.

I/We authorize the Executive Engineer(C), Puducherry-II, CPWD, Puducherry to pay directly on my/our behalf to (name of the third party) an amount of Rs.....(Rupees .....in words) for the work done or supplies made by..... (name of the third party). I/We shall be responsible for the quality and quantity of the same under the provisions of agreement number.....

b) The total payment to third party (or parties) shall not exceed 10% of the agreement cost of the work

Signature of the contractor.

Clause 8 Applicable (Competent authorities to inspect and issue part / final completion certificate)	**1.EE(C) Puducherry-II/ CPWD/ PUDUCHERRY or his successor thereof,**
Clause 8A Authority to decide compensation on account if contractor fails to submit completion plans	**Engineer in charge (Major Component & Minor Component) or his successor thereof for Major Component & Minor Component respectively.**

Clause 10A List of testing equipment to be provided by the Contractor at site lab.	**As per [TABLE–I] -List of Equipment's for Field Testing Laboratory as attached.** **Provisions for External Laboratory as per GCC Maintenance Works 2023 amended upto previous day of the last date of submission of bids.**
Clause 10B (i)	**Not Applicable**
Clause 10B (ii) Whether Clause 10B (ii) shall be applicable	**Not Applicable**
Clause 10C Component of labour expressed as percent of Value of work	**Applicable**
Clause 10CC	**Not Applicable**
Clause 11 Specifications to be followed for execution of work	**Civil: - CPWD specification 2019 Vol. I to II with correction upto previous day of the last date of submission of bids.**
Clause 12 Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2(c)	**Upgradation Works** Please refer below
Clause 12.2(c) Deviation limit beyond which Clauses 12.2 (c) shall apply for Building works	**No Limit**
Clause 12.2(c) Deviation limit beyond which Clauses 12.2 (c) shall apply for foundation work (except items mentioned in earth work subhead in DSR and related items)	**No Limit**

Clause 12.2(c) Deviation limit for items mentioned in the earth work subhead of DSR and related items	**No Limit**
Clause 16 Competent Authority for deciding reduced rates	**SE (Puducherry), CPWD, Puducherry 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 TABLE-2**

Clause 19C	authority to decide penalty (including amount) for default	**Executive Engineer (C) Puducherry-II, CPWD, Puducherry.**
Clause 19 D	authority to decide penalty (including amount) for default	**Executive Engineer (C) Puducherry-II, CPWD, Puducherry.**
Clause 19 G	authority to decide penalty (including amount) for default	**Executive Engineer (C) Puducherry-II, CPWD, Puducherry.**
Clause 19 K	authority to decide penalty (including amount) for default	**Executive Engineer (C) Puducherry-II, CPWD, Puducherry.**

Clause 25

Constitution of Conciliator:

Conciliator	Special Director General (Chennai), CPWD, Chennai-90 or his successor thereof
Arbitrator appointing authorit	Superintending Engineer (Puducherry), CPWD, Puducherry or his successor thereof
Place of Arbitration	Puducherry/ Chennai

Note: The above constitution of Conciliator 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

Sl. No	Requirement of Technical staff	Discipline (major + minor component)	Designation of Technical staff	Minimum Experience (years)	Rate at which recovery Shall be made from the Contract or in the event of not ful filling
1	Graduate Engineer or Diploma Engineer	1 + 1	Project Planning cum planning/ quality / Site/billing Engineer	2 or 5 respectively	Rs. 15,000/-per month per person

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 2023** 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

12. TABLE-1:

LIST OF EQUIPMENTS FOR FIELD TESTING LABORATORY

Equipment for conducting necessary tests as per applicable CPWD Specifications shall be provided and installed at site in the well-furnished site laboratory by the contractor at his own cost. The following laboratory equipment should be in general or as and when required be set up at site laboratory.

The list is only indicative and not exhaustive. The Bidder may be required to deploy more equipment as per requirement of work. Nothing extra shall be payable.

In case any equipment is not required in the work as per decision of Engineer in charge, the same shall be considered as deleted from list.

The decision of Engineer in charge shall be final and binding on all issues related to it.

CIVIL:

Sl. No.	Equipment	Numbers (Minimum)
1	Balances: i) 7 kg to 10 kg capacity, semi-self- indicating type - accuracy 10 gram. ii) 500 Gram capacity, semi-self-indicating type - accuracy 1 gram iii) Chemical balance, 100 gm capacity - accuracy - 0.1 gram iv) Pan balance - 5 kg capacity - accuracy 10 grams v) Platform scale - 300 kg capacity	1 No. each
2	Ovens: Electrically operated Thermostatically controlled upto 200 degree C for determination of loss on heating of bitumen.	1 No.
3	Sieves as per IS 460 - 1962 i) IS sieves - 450mm internal dia of sizes (100mm, 80mm, 63mm, 50mm, 40mm, 25mm, 20mm, 12.5mm, 10mm, 6.3mm, 4.75mm, 1.75mm complete with lid and pan) ii) IS Sieves - 200mm internal dia (brass frame) consisting of 2.36mm, 1.18mm, 600 microns, 425 microns, 300 microns, 212 microns & 150 microns, 90 microns, 75 microns with lid and pan)	1 No. each 1 No. each
4	Sieve shaker capable of 200mm and 300mm dia sieves, manually operated with timing switch assembly	1 No.
5	Equipment for slump test-Slump cone, steel plate, tamping rod, steel scale, scoop	3 Nos.

Sl. No.	Equipment	Numbers (Minimum)
6	Dia gauges 25mm travel - 0.01 mm / division least count - 2 Nos.	1 No.
7	100 MT compression testing machine, electrical cum manually operated	1 No.
8	Load frame - 5 tonnes capacity, electrically operated with speed control	1 No.
9	Aggregate impact test apparatus as per IS 2386 - Part IV - 1963	1 No.
10	Compaction apparatus (Proctor) as per IS 2720 - Part VII - 1974	1 No.
11	Modified ASHO compaction apparatus as per IS 2720 - Part - III - 1974	1 No.
12	Sand pouring cylinder with control funnel and tube complete as per IS 2720-Part XXVIII-1974	1 No.
13	Sampling tins with rods 100mm dia × 50mm ht., 1/2kg capacity, and miscellaneous items like moisture tins etc.	1 No.
14	Constant temperature bath for accommodating bitumen test specimen, electrically operated and thermostatically controlled	1 No.
15	Penetrometer with automatic time controller and with adjustable weight accessories and needles as per IS 1203- 1958	1 No.
16	Oxhlet extraction apparatus complete with extraction thimbles etc	1 No.
17	Laboratory mixer, about 0.02 cu-meter capacity, electrically operated with heating jacket	1 No.
18	Hubbard field stability test apparatus complete	1 No.
19	Marshall compaction apparatus as per ASTM 1559-62T, and complete with electrically operated leading unit, compaction pedestal bearing head assembly, dial micrometer, bracket for flow measurement, load transfer bar, specimen mould (4 inch. dia) with base plate, columns, mould (4 inch, dia) with base plate, collars, specimen extracted. Compaction hammer, 4.53 kg (10lb)/457 mm (18inch) fall.	1 No.
20	Distant reading thermometers	1 No.
21	Graduated cylinder 1000 ml. capacity	3 Nos.
22	Enamel trays (for efflorescence test for bricks) i) 300mm x 250mm x 40mm	2

Sl. No.	Equipment	Numbers (Minimum)
	ii) Circular plate of 250mm dia	4
23	Pumps and pressure gauges for hydraulic testing of pipes	1
24	Cube moulds size 70mm x 70mm x 70mm	6
25	Cube moulds size 150mm x 150mm x 150mm	36
26	Spatula 100mm & 200mm with long blade wooden handle	1 each
27	Vernier callipers 12” & 6” sizes	1 each
28	Digital micrometer least count 0.01 mm	1
29	Digital paint thickness meter for steel 500 micron range	1
30	Digital wood moisture meter	1
31	Steel tapes 3 m, 5 m	5 each
32	Micrometer screw 25 mm gauge	1
33	Rebound hammer for testing concrete	2
34	Construction Field Water Testing Kits	1

13. TABLE-2:

LIST OF MANDATORY MACHINERY, TOOLS & PLANTS TO BE DEPLOYED

BY THE CONTRACTOR AT SITE

All the tools & plants and machinery mentioned below are to be deployed as and when required or as directed by Engineer in charge. The below list is only indicative and not exhaustive. The Bidder may be required to deploy more machinery, tools & plants as per required of work. Nothing extra shall be payable.

In case any equipment is not required in the work as per decision of Engineer in charge, the same shall be considered as deleted from list.

The decision of Engineer in charge shall be final and binding on all issues related to it.

CIVIL:

Sl. No.	Equipment	Numbers (Minimum)
1	Tower Crane upto 40m boom length and of required capacity	-
2	Hoist Lift	-
3	Excavator cum loader (JCB 3D model or equivalent)	1
4	Needle Vibrator	4
5	Plate Vibrators	2
6	Truck/ tipper/ dumper/ Trailer	4 Nos.
7	Reinforcement bending machine	1
8	Reinforcement cutting machine	1
9	Power driven earth rammer (Soil compactor)	-
10	Total station	1
11	Auto level & staff	1
12	Welding machine 400 Ampere	1
13	Screener for coarse sand and fine sand	3
14	Centrifugal mono block water pump minimum capacity 2 HP	2
15	Hopper Mixers for mixing of mortar	-

Sl. No.	Equipment	Numbers (Minimum)
16	Mobile Tower Crane with 20M Boom and 5 MT Capacity	-
17	Motor Grader	1 Nos.
18	Truck mounted Road water sprinkler	1 Nos.
19	Centring and Shuttering	300 Sqm.
20	Power driven earth rammer	2 Nos.
21	Transit mixer	-
22	Concrete Mixer	-
23	Power driven Vibratory roller of 12 MT capacity	1 No.
24	Tandem Wheel Vibratory Roller	1 No.
25	Tractor with water tanker minimum 4000 liter capacity	2 Nos.
26	Water pumps	2 Nos.
27	DG Set 100 KVA	1 No.
28	Sensor operated Slipform Paver Machine of minimum 4 m width (For single lane CC roads)	1 No.
29	Air Compressor	1 No.
30	Computer controlled fully automatic batch mix plant of capacity not less than 20 Cum/ Hour (CC)	-
31	Mechanical paver	1 No.
32	Any other machinery required for completion of the work as per decision of Engineer-in-charge	As per Actual requirement

PART- B

14. PARTICULAR SPECIFICATIONS & SPECIAL CONDITIONS (CIVIL)

GENERAL CONDITIONS

1.1 The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site, the constraints of space for stacking material / machinery, labour etc., constraints put by local regulations, if any, weather conditions at site, general ground / subsoil conditions etc. or any other circumstances which may affect or influence submission of their bids. The site is available for work.. The contractor shall carry out survey of the work area, at his own cost, setting out the layout and fixing of alignment of the building as per architectural and structural drawings (to be prepared by the contractor) in consultation with the Engineer-in-charge and proceed further ensuring full structural continuity and integrated construction. Any discrepancy between the architectural drawings and actual layout at site shall be immediately brought to the notice of the Engineer-in-charge.

1.2 The Contractor shall, if required by him, before submission of the tender, inspect the drawings in the Office of the **Executive Engineer(C), Puducherry-II, CPWD, Puducherry** The department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the bid documents have been furnished, in good faith, for general information and guidance only. The Engineer- in-Charge, in no case, shall be held responsible for the accuracy thereof and/or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in bid document is different or in-correct otherwise or actual working drawings are at variance with the drawings available for inspection or attached to the bid document. It is presumed that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this account.

1.3 The work shall be carried out, all in accordance with true intent and meaning of the specifications, the drawings and other terms & conditions in the bid documents all taken together, regardless of whether the same may or may not be particularly shown on the drawings and/or described in the specifications, provided that the same can be reasonably inferred there from may be several incidental works, which are not mentioned in the bid document but will be necessary to complete the work in all respects. All these incidental works / costs which are not mentioned in bid document but are necessary to complete the work in all respects shall be deemed to have been included in the rate quoted by the contractor. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation / change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the work and are necessary to complete the work in all respects) on account of the directions of Engineer-in-charge. Nothing extra shall be payable on this account.

1.4 The contractor(s) shall give to the local body, police and other authorities all necessary notices etc. that may be required by law and obtain all requisite licenses for temporary

obstructions, enclosures etc. and pay all fees, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain lights either for illumination or for cautioning the public at night.

1.5 Proper temporary barricading by fencing with G.I. sheets, shall be carried out by the contractor at the start of work as per direction of Engineer-in-charge in order to physically define the boundaries of the plot for restricted entry to only those involved in the work and also to prevent any accidents, at the same time without causing any inconvenience to the traffic and the users of the handed over buildings in the adjacent plots. It shall be done by providing, erecting, maintaining temporary protective barricading of minimum 10.00 (Ten) meters total height, made in panels, with each panel having MS frames / MS scaffolding pipes of suitable size and stiffness, with 24 gauge thick GI corrugated sheet or suitably stiffened plain GI sheet fixed on frames. Such panels shall be suitably connected to each other for stability with nuts and bolts , hooks, clamps etc. and fixed firmly to the ground at about 2 metres spacing, for the entire duration till completion of the work. He shall also provide and erect temporary protective barricades within the plot, if required, to prevent any accident. Temporary protective roofing near the entrance to the building, under construction, shall be made to protect the visiting officials from getting hurt by falling debris etc. Also, one or more coat of enamel paint of shade as approved and directed by the Engineer-in- charge shall be applied on the panels and “CPWD” shall be painted over that in suitable sizes, shapes and numbers as directed by the Engineer-in-charge. It shall be dismantled and taken away by the Contractor after the completion of work at his own cost with the approval of the Engineer-in- charge. Nothing extra shall be payable on this account.

1.6 The Contractor/ Architects to make the built environment Barrier free and accessible to all. Bidders are instructed to strictly adhere to the provisions contained in relevant guidelines on barrier free and accessibility and corresponding provisions of NBC while incorporating such features in the building. Bidders should visit CPWD website www.cpwd.gov.in. (Provision of lift for vertical movement shall be as per drawings).

1.7 The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night. In case of any accident to labours/ contractual staff the entire responsibility will rest on the part of the contractor and any compensation under such circumstances, if becomes payable, shall be entirely borne by the contractor.

1.8 The work shall generally be carried out in accordance with the applicable “CPWD Specifications” with correction slips issued up to previous day of the last date of submission of bids, Additional/ Particular Specifications, Architectural/ Structural drawings and as per instructions of Engineer-in-charge. Any additional item of the work, if taken up subsequently, shall also conform to the relevant CPWD specifications as mentioned above.

1.9 The several documents forming the tender are to be taken as mutually complementary to one another. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scale dimensions.

1.10 In case of any difference or discrepancy between the description of items, particular

specifications for individual items of work (including special conditions) and I.S. Codes etc., the following order of preference shall be observed.

(i) Description of the Schedule of Quantities
(ii) Particular specifications
(iii) Special conditions
(iv) Additional Conditions
(v) CPWD Specifications including correction slips issued up to the last date of uploading/submission of tender.
(vi) General Conditions of Contract 2023 for Maintenance works including correction slips issued up to the last date of uploading/submission of tender.
(vii) Indian Standards Specifications of B.I.S.
(viii) ASTM, BS, or other foreign origin codes mentioned in tender document.
(ix) Manufacturers' specifications and as decided by the Engineer-in-Charge.
(x) Sound Engineering Practices

1.11 The works to be governed by this contract shall cover delivery and transportation up to destination, safe custody at site, insurance, erection, testing and commissioning of the entire work.

1.12 It shall be the responsibility of the successful bidder to maintain the security / watch and ward of the buildings or part of buildings, to be dismantled if any, after taking over of the buildings and the Engineer- in-Charge is not responsible for any loss of materials from the site.

1.13 The successful bidder shall be responsible for any damage done in the demolition and indemnify the Government against any claim on account thereof including third party and workmen's Compensation claims. If any damage is done to any adjoining property, the Engineer-in-Charge shall be entitled to have the same put right at the risk and expense of the successful bidder or treat the default as a ground for terminating the contract.

1.14 The works to be undertaken by the contractor shall inter-alia include the following:

(i) Preparation of detailed Structural drawing, SHOP drawings and 'AS BUILT' drawings

(ii) Obtaining Statutory permissions wherever applicable and required.

(iii) Pre-commissioning tests as per relevant standard specifications, code of practice, Acts and Rules wherever required.

(iv) The contractor shall provide all the shop drawings or layout drawings for all the co-ordinate services before starting any work or placing any order of any of the services etc. These shop drawings/layout drawings shall be got approved from Engineer-in-charge before implementation and this shall be binding on the contractor. The contractor shall submit material submittals along with material sample for approval of Engineer-in-Charge prior to delivery of material at site.

1.15 **The work shall be carried out in accordance with scope of work.** Before commencement of any item of work the contractor shall correlate all the relevant architectural and structural drawings, Specifications etc. issued for the work and satisfy himself that the information available from there is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale.

The discrepancy, if any, shall be brought to the notice of the Engineer-in- charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim whatsoever shall be entertained by the department on this account. The delay caused on account of non-timely action by the contractor in resolution of the differences whatsoever shall not be considered as valid ground for extension of time unless otherwise accepted by Engineer- in-charge.

1.16 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, including all curvature in all planes as well as in elevations** and nothing extra shall be payable to him on this account.

1.17 The contractor shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at suitable place. No stacking of materials or excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan. However, if any change is required, the same shall be done with the approval of Engineer-in-Charge.

1.18 The contractor shall bear all incidental charges for cartage, storage and safe custody of materials, if any, issued by department as well as to those materials also arranged by the contractor.

1.19 Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the execution of work and nothing extra shall be payable or extra cement considered in consumption on this account.

1.20 The scope of work includes doing hacking on the existing/ proposed RCC/ cement concrete surface wherever required as per the directions of Engineer in charge. The cost of hacking shall be deemed to be inclusive in the rates quoted by the agency/ contractor.

1.21 The contractor shall give performance test of the entire installation(s) as per the specifications in the presence of the Engineer-in-charge or his authorized representative before the work is finally accepted and nothing extra what-so-ever shall be payable to the contractor for such test.

1.22 Materials used on work without prior inspection and testing (where testing is necessary) and without approval of the Engineer-in-Charge are liable to be considered unauthorized, defective and not acceptable. The Engineer-in-Charge shall have full powers to require the removal of any or all of the materials brought to site by contractor which are not in accordance with the contract specifications or do not conform, in character or quality to the samples approved by the Engineer- in-Charge. In case of default on the part of the contractor in removing the rejected materials, the Engineer-in-Charge shall be at liberty to have them removed at the risk and cost of the contractor.

1.23 Use of Manufactured sand (M-sand), subject to fulfilment of CPWD Specifications is allowed in all items of works without any cost adjustment i.e without any extra payment to contractor or without any recovery from contractor.

1.24 Water tanks, taps, water supply & drainage pipes, fittings & accessories should conform to bye- laws of local body/corporation, where CPWD specifications are not available. The

Contractor should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/ Corporation authorities wherever required at his own cost. The Contractor shall submit for the approval of the Engineer-in-charge, the name of the plumbing agency (along with their working experience in recent past) proposed to be engaged by him.

1.25 The contractor shall make his own arrangements for water and for obtaining electric connections if required and make necessary payments directly to the State Govt. departments concerned. Contractor shall get the water tested from laboratory approved by the Engineer-in-charge at regular interval as per the CPWD Specifications. All expenses towards collection of samples, packing, transportation etc. shall be borne by the contractor.

1.26 Work shall normally be done in a single shift/day. However if the work is required to be executed in more than one shift in a day for meeting the time lines, the Contractor with prior approval of the Engineer-in-charge, shall have to make necessary arrangements for the same and all costs towards the same shall be deemed to have been included in the quoted rates.

1.27 PREVENTION OF NUISANCE AND POLUTION CONTROL

The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties from pollutants like smoke, dust, noise. The contractor shall use such methodology and equipment so as to cause minimum environmental pollution of any kind during construction and minimum hindrance to road users and to occupants of the adjacent properties or other services running adjacent/near vicinity. The contractor shall make good at his cost and to the satisfaction of the Engineer-in Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused due to the execution of the work or by traffic brought thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor, without any reservation, entirely to the satisfaction of the Engineer-in-charge

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 nearby occupants/users of building(s), if any.

1.28 SECURITY AND TRAFFIC ARRANGEMENTS

In the event of any restrictions being imposed by the Security agency of Client Department/ CPWD/ Puducherry Traffic, whichever is applicable or any other local authority having jurisdiction in the area on the working or movement of labour/ material, the contractor shall strictly follow such restrictions and nothing extra shall be payable to him on such accounts. The loss of time on these accounts, if any, shall have to be made up by augmenting additional resources whatever required.

1.29 As the site is restricted, the huts for labour are not to be erected at the site of work by the contractors. The contractor is required to make his own arrangements to provide huts for labourers at outside, as is acceptable to local bodies and nothing extra shall be paid on this account. He shall make his own arrangements for stores, field office etc. Before

tendering, he shall visit the site and assess the manner in which he is able to arrange the above facilities. The Engineer-in- Charge shall in no way be responsible for any delay on this account and no claim, whatsoever, on this account shall be entertained.

1.30 No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and the work for which payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P/Machinery brought to the site by him.

1.31 The contractor shall construct suitable go downs, yard at the site of work for storing all other materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.

1.32 All materials obtained from contractor shall be got checked by the representative of Engineer-in- Charge on receipt of the same at site before use.

1.33 The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including all equipment, services provided by him against pilferage and breakage during the period of Installations and thereafter till the building is physically handed over in complete shape to the CPWD. **The CPWD will take over the building along with the Client Department after rectification all defects**. No extra payment shall be made on this account and no claim shall be admissible on this account.

1.34 The contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye- laws laid down by Collector and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The contractor shall also adhere to all traffic restrictions notified by the local authorities. The extra sewerage charges (one-time charges for commencement of work) required to be paid to the Municipal Corporation/ other statutory bodies shall be paid by the department and need not be considered by the contractor.

All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges) payable to such authorities for carrying out the wor`, shall be borne by the Contractor. The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor.

The contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the department and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts. The fee payable to

statutory authorities for obtaining the various permanent service connections and the Occupancy Certificate for the building shall be borne by the department.

1.35 For works below ground level, the contractor shall keep that area free from water. If dewatering or bailing out of water is required, the contractor shall do the same at his own cost and nothing extra shall be paid except otherwise provided in the tender document.

1.36 The contractor shall make all necessary arrangements for protecting works already executed from rains, fog or likewise extreme weather conditions and for carrying out further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.

1.37 In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the bid document. Also, the contractor shall make good, at his own cost, the damages caused, if any. Further, no claim for hindrance shall be entertained on this account.

1.38 The contractor will take reasonable precautions to prevent his workman and employees from removing and damaging any flora (plant/vegetation) from the project area.

1.39 SETTING OUT

(i) The contractor shall carry out survey of the work area, at his own cost, setting out the layout of building in consultation with the Engineer–in-charge & proceed further. Any discrepancy between architectural drawings and actual layout at site shall be immediately brought to the notice of the Engineer–in-charge. It shall be responsibility of the contractor to ensure correct setting out of alignment. Total station survey instruments only shall be used for layout, fixing boundaries, and centre lines, etc., Nothing extra shall be payable on this account.

(ii) The contractor shall establish, maintain and assume responsibility for grades, lines, levels and bench marks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer–in-charge before commencing work. Commencement of work shall be regarded as the contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.

(iii) If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer–in-charge. Nothing extra shall be payable on this account.

(iv) The contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. The contractor shall protect and maintain temporary/ permanent bench marks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer-in-charge or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. Nothing extra shall be payable on this account.

(v) The approval by the Engineer-in-charge, of the setting out by the contractor, shall not

relieve the Contractor of any of his responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.

(vi) The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the Contractor at his own cost to the entire satisfaction of the Engineer–in-charge.

(vii) The rate quoted by the contractor is deemed to be inclusive of site clearance, setting out work (including marking of reference points, centre lines of buildings),construction and maintenance of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, barricading, signage, labour safety, labour welfare and labour training measures, preparatory works, working during monsoon, working at all depths, height and location etc, **any extra excavation of earth wherever required** and any other incidental works required to complete this work. Nothing extra shall be payable on this account.

(viii) The rate offered is inclusive of providing sunken flooring in bathrooms, kitchen etc., wherever applicable and nothing extra on this account is admissible.

1.40 A site laboratory with the minimum equipment's as specified in CPWD specifications/in this bid document shall be established, made functional and maintained within one month from the award of work as per list without any extra cost to the department. In case of non-compliance / delay in compliance in this, **a recovery Rs. 1000/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor**

1.41 The contractor should make temporary arrangement for sewage disposal, water supply and electricity for completed building to make them to functional in case permanent arrangements are not ready.

1.42 TOOLS AND PLANTS

The contractor should have own constructions equipment required for the proper and timely execution of the work. Nothing extra shall be paid on this account.

No tools and plants including any special T&P etc. shall be supplied by the department and the contractor shall have to make his own arrangements at his own cost. No claim of hindrance (or any other claim) shall be entertained on this account.

1.43 SCAFFOLDING

Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed, by the contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. Single scaffolding system is strictly prohibited and shall invite necessary action. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account. It shall be ensured that no damage is caused to any structure due to the scaffolding.

1.44 (i) The contractor shall do proper sequencing of the various activities by suitably staggering the activities so as to achieve early completion. The contractor is to deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period as specified. Also ancillary facilities shall be provided by contractor commensurate with requirement to complete the entire work within the stipulated period. Nothing extra shall be payable on this account. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period.

It shall be ensured by the contractor that all the equipment, Tools & Plants, machineries etc. provided by him are maintained in proper working condition at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the contractor, on site of work or his workshop for this work, shall be exclusively intended for use in the construction of this work and they shall not be shifted/ removed from site without the permission of the Engineer-in-charge.

(ii) Slab cycle requirements

The contractor shall plan and design concrete strength at various stages of work commensurate to the slab cycle requirement through submitted shuttering plan/design, which shall be the sole responsibility of the contractor and this shall not absolve him of his responsibility despite approvals accorded by Engineer-in-charge. The quoted rate shall be deemed to include the cost of the above

1.45 The Contractor shall be responsible for maintaining all the work in good condition till the completion of entire work. The Contractor shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer-in-Charge shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the Contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor at his own cost.

1.46 ROYALTY

Royalty at the prevalent rates shall be paid by the Contractor or the RMC supplier as per the terms of supply between them, on all materials such as boulders, metals, all sizes stone aggregates, brick aggregates, coarse and fine sand, moorum, river sand, gravels and bajri etc. collected by him for the execution of the work, directly to the revenue authority of the state government concerned. Further, contractor needs to submit proof of submission of full royalty to the state government or local authority. Nothing extra shall be payable on this account.

1.47 PRESERVATION AND CONSERVATION MEASURES

Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services, if any, encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted, expenditure incurred in doing so shall be payable to the contractor. The contractor shall work out the cost, get the same approved by Engineer-in-charge

before taking up actual execution. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on project location during excavation/construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant Act. The contractor will take reasonable precaution to prevent his workmen or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal acquaint the Engineer-in-charge of such discovery and carry out the official instructions of Engineer-in-charge for dealing with the same, till then all work shall be carried out in a way so as not to disturb/damage such article or thing.

1.48 RESPONSIBILITY

i) The contractor shall protect and indemnify the CPWD and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts.

ii) The fee payable to statutory authorities for obtaining the various permanent service connections and Building Use Certificate for the building shall be borne by the CPWD.

iii) The contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the CPWD from any and all damages and claims that may arise on any account. The Contractor shall indemnify the department CPWD against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.

1.49 CO-OPERATION WITH OTHER CONTRACTORS/ SPECIALIZED AGENCIES / SUB-CONTRACTORS

(a) The Contractor shall take all precautions to abide by the environmental related restrictions imposed by any statutory body having jurisdiction in Puducherry, whichever is applicable as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor, entirely to the satisfaction of the Engineer- in-Charge and disposed at designated places only. 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, lack of public transport, 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 tenderers 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.

(b) 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. The contractor shall indemnify the Department (CPWD) against any claim(s) arising out of such disputes. The Contractor shall:

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

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

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

d. Provide electricity and water at mutually agreed rates.

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

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

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

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

(c) 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.

(d) 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 and the contractor shall fix/leave the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

(e) 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 –ordinate manner and shall perform it in proper sequence to the complete satisfaction of others.

1.50 SUPERVISION OF WORK

The Contractor shall depute Site Engineer & skilled workers as required for the work. He shall submit organization chart along with details of Engineers and supervisory staff. It shall be ensured that all decision making powers shall be available to the representatives of the Contractor at Puducherry itself to avoid any likely delays on this account. The Contractor shall also furnish list of persons for specialized works to be executed for various items of work. The Contractor shall identify and deploy key persons having qualifications and experience in the similar and other major works, as per the field of their expertise. If during the course of execution of work, the Engineer- in-Charge is of the opinion that the deployed

staff is not sufficient or not well experienced; the Contractor shall deploy more staff or better-experienced staff at site to complete the work with quality and in stipulated time limit. Principle Technical representative of the Contractor having minimum years experience in similar nature of work as mentioned in the clause 32 of the General Conditions of the Contract, shall always be available at the site during the actual execution of the work. The recovery rate as mentioned in the clause 32 shall be effected from the Contractor in the event of not fulfilling this provision.

1.51 RATES

(i) The percentage rates quoted by the Contractor are deemed to be inclusive of cost of all scope of works mentioned in the bid document, 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, implementation of green building norms to achieve desired GRIHA Rating 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.

(ii) The percentage rates quoted by the tenderer, shall be firm and inclusive of all taxes and levies (including works contract tax, GST, construction labour welfare cess).

(i) 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.

(ii) 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 and other storage, steel fabrication yard, site laboratory, water tank, etc.

(iii) 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.

(iv) 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.

(v) The approval accorded by CPWD before acceptance of tender is only for tender evaluation. Any changes, modifications, revisions etc. required to be done by CPWD, client, local bodies, proof consultants etc. in accordance with applicable standards will have to be done at contractor's cost and nothing extra shall be payable.

(vi) **In the event of any court cases, objections, or disputes arising in connection with the land under execution, the agency shall wait for a minimum period of one month or till the departmental decision is communicated. During such period, no idle charges, compensation, escalation, or any other claims whatsoever shall be entertained or paid by the Department under any circumstances.**

1.52 SAFETY PRACTICES

(i) **WARNING/ CAUTION BOARDS**: All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer – in – Charge. Nothing extra shall be payable on this account.

(ii) **SIGN BOARDS**: The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Client/Owner, Engineer-in-charges, Structural Consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies within 15 days from issue of award letter. Nothing extra shall be payable on this account. **In case of non compliance/delay in compliance in this, a penalty @ Rs. 1000/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor**

(iii) Necessary protective and safety equipment such as helmet, safety shoes, gloves etc. shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor and also to the departmental officials supervising / inspecting the works by the Contractor at his own cost and to be used at site. Nothing extra will be paid on this Account.

(iv) Nylon net (50x50mm aperture and 4mm dia) at site shall be fixed to hooks etc., along periphery of building at various levels required and as directed by Engineer-in-charge for safety of the working staff for which nothing extra will be paid on this account

(v) No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at

site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer –in- Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

1.53 QUALITY ASSURANCE

(i) The proposed work is prestigious and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like exposed finish form work, specialized flooring work, silicon sealant and backer rod fixing in expansion joints, factory made door- window shutters, proper slope maintaining in toilet units, sanitary- water supply installation, water proofing treatment, will specially require engagement of skilled workers having experience particularly in execution of such items.

(ii) The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-charge & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

(iii) In addition to the supervision of work, CPWD Engineers shall also be carrying out regular and periodic inspection of the ongoing activities in the work and deficiencies, shortcomings, inferior workmanship pointed out by them shall be communicated by CPWD engineers to the contractor. Upon receipt of instructions from Engineer in Charge these are also to be made good by necessary improvement, rectification, replacement upto complete satisfaction of Engineer -in-Charge.

Special attention shall be paid towards line and level of internal and external plastering, exposed smooth surface of RCC members by providing fresh shuttering plates, rubberized linings to all the shuttering joints, accurate joinery work in wooden doors and windows, thinnest joints in stone/ tiling / cladding work, non-hollowness in floor and dado tiles work, protection of scratches over flooring by impounding layer of plaster of Paris, water tight pipe linings, absence of hollow vertical joints in brick masonry, proper compaction of filled up earth etc. to achieve an Institution of International standards and up keeping of quality assurance shall be of paramount importance, as such.

(iv) The Contractor shall submit, within 15 days after the date of award of work, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer-in-Charge. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer-in- Charge, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer-in-Charge.

(v) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of

Quantity, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per suggested list of brand names given in the tender document / particular specifications for approval of Engineer-in- Charge. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer-in-Charge.

(vi) The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contactor for non- availability of the brand specified and also subject to independent verification by the Engineer- in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge.

(vii) All materials whether obtained from Govt. stores or otherwise shall be got checked by the Engineer-in-Charge or his authorized supervisory staff on receipt of the same at site before use.

(viii) The contractor has to establish field laboratory at site including all necessary equipment for field tests as given in Schedule 'F'. All the relevant and applicable standards and specifications shall be made available by the contractor at his cost in the field laboratory. The contractor shall designate one of his technical representatives as Quality Assurance Engineer, who shall be responsible for carrying out all mandatory field/laboratory tests. The contractor shall also provide adequate supporting staff at his cost for carrying out field tests, packaging and forwarding of samples for outside laboratory tests and for maintaining test records.

(ix) The tests, as necessary and where no field laboratory facilities are available, shall be conducted in the laboratory approved by the Engineer–in- Charge. For materials for which field testing equipment is established at site, for those materials 90% of total tests shall be done at the laboratory established at site by contractor and remaining 10% in the reputed laboratories approved by Engineer-in-charge. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in-Charge or his authorized representative.

(x) All the registers of tests carried out at Construction Site or in outside laboratories and all material at site (MAS) registers including cement register shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-charge. All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by JE/AE/AEE/EE. Contractor shall be responsible for safe custody of all the registers.

(xi) The Contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer-in- Charge may require for

collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer-in-Charge, at such time and to such places as directed by the Engineer-in-Charge. Nothing extra shall be payable for the above.

(xii) The Contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the Contractor .The Contractor or his authorized representative shall remain in contact with the Engineer-in–Charge or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the Contractor.

(xiii) All expenditure to be incurred for testing of samples e.g. collection, packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The cost of material used for testing shall also be borne by the contractor.

(xiv) All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in CMB/EMB duly test checked shall be deposited with Engineer in charge or his authorized representative, prior to hiding these items.

(xv) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should confirm to bylaws and municipal body / corporation where CPWD Specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities wherever required at his own cost.

(xvi) The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.

(xvii) The contractor shall have to execute guarantee bonds in respect of water proofing works as per Performa enclosed.

(xviii) The Contractor shall arrange electricity at his own cost for testing of the various electrical installations as directed by Engineer-in-Charge and for the consumption by the contractor for executing the work. Also all the water required for testing various electrical installations, fire pumps, wet riser / fire fighting equipment, fire sprinklers etc. and also testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged by the contractor at his own cost. Nothing extra shall be payable on this account.

1.54 Minimum Quality Assurance Plan

(i) Mandatory Tests shall be conducted as per CPWD specifications mentioned in Schedule A to F modified and corrected upto previous day of the last date of submission/ uploading of bid.

(ii) Machinery and other tools & plants shall be deployed as specified in Schedule F.

(iii) A field laboratory has to be set up by the contractor with all testing equipments as specified in Schedule F.

(iv) The agency shall submit a shuttering schedule showing quantity of shuttering to be

brought at site and its use. The schedule shall be approved by the Engineer-in-charge after review. If any changes are required by the Engineer-in-charge, the same shall be carried out by the agency.

(v) Maintenance of Register of Tests –

(a) All the registers of tests to be carried out at Construction Sites or in outside laboratories shall be maintained by the contractor, which will be issued to the contractor by Engineer-in-Charge.

(b) All Samples of materials including Cement Concrete Cubes are taken jointly with Contractor by CPWD staff, as per percentage stipulated in the bid document or as decided by the Engineer-in- charge. All the necessary assistance shall be provided by the contractor. Cost of sample of materials including testing charges shall be borne by the contractor and he/ she shall be responsible for safe custody of samples to be tested at site.

(c) All the test in field lab setup at Construction Site shall be carried out by the Engineering Staff deployed by the contractor. The percentages of tests to be witnessed by the field officers shall be decided by the Engineer-in-charge. In case, it is not decided by the Engineer-in- charge, provisions of CPWD Quality Assurance Manual for building works 2022 shall be applicable.

(d) All the entries in the registers shall be made by the designated Engineering Staff of the contractor and same shall be regularly reviewed by the field officers as well as the Engineer-in-Charge. Contractor shall be responsible for safe custody of all the test registers.

(vi) Proforma for Mandatory tests as per Appendix-B2 shall be attached with each Running bill. Submission of all test registers and material at site register along with each alternate Running Account Bill and Final Bill is mandatory for works costing more than 10 Cr. In case of works costing less than or equal to Rs 10 Crore, all test registers and MAS registers shall be submitted along with final bill.

If all the test registers and MAS register are not submitted along with each alternate R/A Bill & Final Bill as per above provision, no payment shall be released to the contractor.

(vii) Maintenance of Materials at Site (MAS) Registers –

(a) All MAS Registers including Cement and Steel Registers shall be maintained by the Contractor which shall be issued to the contractor by Engineer-in-Charge.

(b) Each entry of receipt of material at site shall be 100% test checked by JE or by AE if there is no JE. If both JE & AE are available, AE should test check at least 50% of the entries.

(c) Each MAS Register shall be checked by JE & AE at least once a week.

(d) Cement Register shall be reviewed by EE at least once in a month for work at same station and alternate months for work at outstation.

(e) It shall be mandatory for the field staff to retain the self-attested (by agencies/ contractors) copies of Tax paid bills of the materials entered in the MAS Register viz., Steel, Cement,

Bitumen, Paint, Primer, Distemper, Varnishes, Tile Adhesive, Admixture, Anti termite chemical, Water proofing compound material and any other item as decided by the Engineer-in-charge.

(f) Self-attested copies of Tax paid bills of materials taken in MAS Register shall be obtained by the field staff from the agencies/ contractors before settling the payments. In case of any doubt the same can be verified by the field staff. However, onus of genuiness of Tax paid bills rests with the agencies/ contractors.

(viii) The contractor shall enure that the work is of required specifications and also the workmanship as per bid document and sound engineering practices.

(ix) While sending samples of the material for testing in the external laboratories, the following shall be ensured:

(a) Letter for sending sample for testing of material shall be sent through e-mail to the Lab along with name (s) of test (s) to be done on the material by AE/ EE concerned with the work. The Lab shall preferably generate QR/ Bar Code for each test of the work, and it will be pasted on the box at the time of receipt of sample mentioning the number and type of material, lab tests required etc. The labs shall invariably acknowledge receipt of sample and intimate through e-mail to AE, EE and contractor. The test reports shall be emailed by the lab to the AE, EE and contractor. The bill of the testing shall be sent to the contractor for payment with a copy to the AE/ EE for information.

(b) The agency shall collect the sample & send it to the lab, make the necessary payment for the testing at the time of submitting the samples of material to the testing lab. lf, he fails either to collect the samples or to submit to the lab, within the time mentioned in the specifications or within three working days, whichever is earlier, the department will make arrangement to collect and submit sample(s) and make the necessary payment to lab, the recovery on account of collection, submission and testing charges of samples shall be done from next R/A bill/ final bill of the agency.

(c) lf the agency fails three times in collection and submission of samples for materials or fails to make payments of testing to the testing labs at each occasion within seven days of receipt of bill from the concerned lab, the Engineer-in-Charge will send the case along with all documents and his recommendations to the CE/ SE (as the case may be) for initiating disciplinary action against the agency. CE/ SE will take action in the matter as under:

i. ln case of non-enlisted contractors, CE/ SE will give an opportunity to the agency to submit his version within 15 days. After considering the reply of the agency, CE/ SE will take decision on debarment of the agency from participation in tendering in CPWD for a period of two years. However, running contracts shall remain unaffected by the debarment order,

ii. ln case of CPWD enlisted contractors, CE/ SE will send the case to the Enlisting Authority along with his recommendations. As per directions of the Enlisting Authority, disciplinary action shall be initiated by the Empowered Committee as per extant enlistment rules. After considering the recommendation of the Empowered Committee, Enlisting Authority will take decision on debarment of the agency for a period of two years. However, running contracts shall remain unaffected by the debarment order.

(x) CPWD's Quality Assurance Manual for building works 2022 shall be used for minimum assurance plan. In case of any discrepancy between CPWD specifications and Manual,

the decision of Engineer in charge shall be final and binding.

(xi) The Contractor shall submit, within 20 days after the date of award of work, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer in charge. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications/ standards as directed by the Engineer in charge. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer in charge, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer in charge.

1.55 Time and progress chart and revised programe:

The Contractor shall prepare program chart before start of work for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfilment of the program within the stipulated period and submit the same for approval of the Engineer in charge within the period specified in applicable GCC.

1.56 Submission of Progress Reports

Apart from the above program chart, the contractor shall be required to submit progress report of the work in a computerized form every 10th of the month.

1.57 Temporary Water/ Electricity

(i) Arrangement of temporary water and electricity required by Contractor, shall be made by him at his own cost and also necessary permissions shall be obtained by him directly from concerned authorities, under intimation to the Department. Also, all initial cost and running charges, and security deposit, if any, in this regard shall be borne by him. The Contractor shall abide by all the rules/ bye laws applicable in this regard and he shall be solely responsible for any penalty on account of violation of any of the rules/ byelaws in this regard. Nothing extra shall be payable on this account. The contractor can use ground water by digging bore well from the site premises if permissible. He shall maintain the bore log details, static water table, yield, and drawdown level of the bore well and the same shall be handed over to the department. After completion of work he can take out the submersible pump and the bore will become property of employer.

(ii) The Contractor shall be responsible for maintenance of watch and ward of the complete installation and water/ electricity meter and shall also be responsible for any pilferage, theft, damage, penalty etc. in this regard. The Contractor shall indemnify the Department against any claim arising out of pilferage, theft, damage, penalty etc. whatsoever on this account. Security deposit for the work shall be released only after No Dues Certificates are obtained from the local Authorities from whom temporary electric/ water/ telephone connection have been obtained by the Contractor. Nothing extra shall be payable on this account.

(iii) The Department shall in no way be responsible for either any delay in getting electric and/ or water and/ or telephone connections for carrying out the work or not getting connections at all. No claim of delay or any other kind, whatsoever, on this account shall be entertained from the Contractor. Also, contingency arrangement of stand-by water & electric supply

shall be made by the Contractor for commencement and smooth progress of the work so that work does not suffer on account of power failure or disconnection or not getting connection at all. No claim of any kind whatsoever shall be entertained on this account from the Contractor. Nothing extra shall be payable on this account.

1.58 Cleanliness of Site

(i) The Contractor shall not stack building material/ malba / muck 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.

(ii) The contractor shall take instructions from the Engineer in charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.

(iii) The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The Contractor shall take all care to prevent any water logging at site. The waste water, slush etc. shall not be allowed to be collected at site. It may be directly pumped into the creek with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/ charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.

1.59 Inspection of Work

(i) In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by Officers of CPWD/ CTE/ vigilance unit/ TPQA/ User Department and their representatives. 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 representative duly accredited in writing, to be present for that purpose.

(ii) Inspection of the work by Committee/ Consultant appointed by the CPWD.

a. The committee/ consultant appointed by CPWD, shall be inspecting the works including workshops and fabrication factory to ensure that the works are in general being executed according to the design, drawings and specifications laid down in

the contract. His observations shall be communicated by CPWD Engineering staff and compliance is to be reported to CPWD.

b. The consultant appointed by CPWD shall certify on completion of particular building that it has been constructed according to the approved drawings design and specifications.

(iii) Officers of CPWD, Dignitaries from Central Ministry/ Department, User Department shall be inspecting the on-going work at site at any time with or without prior intimation. The contractor shall, therefore, keep updated the following requirements and detailing.

a. Display Board showing detail of work, weekly progress achieved with respect to targets, reason of shortfall, status of manpower, wages being paid for different categories of workers.
b. Entrance and area surrounding to be kept cleaned.
c. Display layout plan key plan, Building drawings including plans, elevations and sections.
d. Upto date displays of Bar chart, CPM and PERT etc.
e. Keep details of quantities executed, balance quantities, deviations, possible Extra item, substituted Item etc.
f. Keep plastic/ cloth mounted one sets of building drawings.
g. Set of Helmets and safety shoes for exclusive use for officers/ dignitaries visiting at site.

(iv) The work may be inspected by Chief Technical Examiners Organization of Central Vigilance Commission/ Vigilance Unit of CPWD/ Any other authority. In such case the contractor shall make all arrangements for providing required details/ documents.

1.60 The NIT approving authority /Engineer-in-Charge/ Team of Officers of the department & client may conduct necessary inspection(s), before dispatch of materials at manufacturer's factory. The contractor has to arrange necessary arrangements for inspection of materials including conducting necessary required tests in the manufacturing unit. The expenditure towards arrangement of inspection & testing of materials at the manufacturer’s factory shall be borne by the contractor and nothing extra shall be payable to the contractor on these accounts.

1.61 General Clarifications

(i) Unless otherwise specified in the schedule of quantities, the rates for all items of work shall be considered, as inclusive of pumping out or bailing out water, if required throughout the construction period for which no extra payment shall be made. This shall also include water encountered from any source such as rains, floods, sub soil water table being high and/ or due to any other cause whatsoever.

(ii) All stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries.

(iii) Coarse sand should be obtained from approved sources. The same shall be clean and sharp angular grit type. The coarse sand shall be screened before using, if required. If the sand brought to site is dirty, it must be washed in clean water to bring the sand to the required specifications. Nothing extra shall be payable on this account.

(iv) The rates for all items of work, shall unless clearly specified otherwise, include cost of

all operations and all inputs of labour, material, T & P, scaffolding, wastages, watch and ward, other inputs, all incidental charges, all taxes, CESS, VAT/ GST, duties, levies etc. required for execution of the work.

1.62 De-watering

(i) De-watering required, if any, shall be done conforming to BIS Code IS: 9759 (guide lines for de-watering during construction) and/ or as per the specifications approved by the Engineer in charge. Design of an appropriate and suitable dewatering system shall be the Contractor's responsibility. Such scheme shall be modified/ augmented as the work proceeds based on fresh information discovered during the progress of work, at no extra cost. At all times during the construction work, efficient drainage of the site shall be carried out by the Contractor and especially during the laying of plain cement concrete, taking levels etc. The Contractor shall also ensure that there is no danger to the nearby properties and installations on account of such lowering of water table. If needed, suitable precautionary measures shall be taken by the Contractor. Also, the scheme of dewatering adopted shall have adequate builtin arrangement to serve as stand-bye to attend to repair of pumps etc. and disruption of power/ fuel supply. Nothing extra shall be payable on this account.

(ii) In trenches where surface water is likely to get into cut/ trench during monsoons, a ring bund of puddle clay or by any other means shall be formed outside, to the required height, and maintained by the Contractor. Also, suitable steps shall be taken by the Contractor to prevent back flow of pumped water into the trench. Nothing extra shall be payable on this account.

1.63 Mandatory requirement of Insurance Policies for the entire project period

(i) Before commencing the execution of work, the Contractor shall, without in any way limiting his obligations and liabilities, insure at his own cost and expense against any damage or loss or injury, which may be caused to any person or property, at site of work.

(ii) The Contractor shall obtain and submit to the Engineer in charge "Contractor All Risk Insurance Policy" for an amount 1.25 times the contract amount for this work, with Engineer in charge as the first beneficiary. The insurance shall be obtained in joint names of Engineer in charge and the Contractor (who shall be second beneficiary). Also, he shall indemnify the Department from any liability during the execution of the work.

(iii) Further, he shall obtain and submit to the Engineer in charge, a third party insurance policy for maximum Rs.10 lakh for each accident, with the Engineer in charge as the first beneficiary. The insurance shall be obtained in joint names of Engineer in charge and the Contractor (who shall be second beneficiary).

(iv) The Contractor shall, from time to time, provide documentary evidence as regards payment of premium for all the Insurance Policies for keeping them valid till the completion of the work. The Contractor shall ensure that Insurance Policies are also taken for the workers of his Sub-Contractors/ specialized agencies also. Without prejudice to any of its obligations and responsibilities specified above, the Contractor shall within 10 days from the date of letter of acceptance of the tender and thereafter at the end of each quarter submit a report to the Department giving details of the Insurance Policies along with Certificate of these insurance policies being valid, along with documentary evidences as required by the Engineer in charge.

(v) No work shall be commenced by the Contractor unless the contractor obtains the Insurance Policies as mentioned above. Also, no payment shall be made to the Contractor on expiry of insurance policies unless renewed by the Contractor. Nothing extra shall be payable on this account. No claim of hindrance (or any other claim) shall be entertained from the contractor on these accounts.

1.64 Third Party Quality Assurance (TPQA):

(a) In order to achieve a high standard of quality, a separate agency if required shall be appointed by CPWD who will carry out independent testing of materials and checking and ensure overall quality procedures. The Contractor shall be required to fully cooperate with the agency and facilitate them in taking samples, transportation and examination of various activities including documentation at no extra time and cost. In case of any adverse findings by the agency, the Contractor shall do the needful rectifications at no extra time and cost. The Engineer in charge shall be at liberty for ensuring quality work done through agencies like IITs/ NITs/ IIITs/ Govt. Engineering College or any Institute of Repute. The successful Bidder shall include the provisions of Quality Assurance while framing the proposed methodology for tests. The expenditure towards engaging TPQA team shall be borne by the department.

(b) The Contractor shall allow access to Third Party Quality Assurance (TPQA) engaged by Engineer in charge to have a control on quality and methodology of execution. All the arrangements required for sampling, transporting and getting them tested including testing charges shall be borne by the agency/ Contractor for which nothing extra shall be payable. The Contractor shall extend full cooperation to Third Party Quality Assurance Agencies engaged by the department for the Project during their field visits for arranging the necessary quality assurance tests for materials and the construction works.

1.65 Preferred Makes (Brands) of materials:

Preferred makes (brands) of materials, wherever applicable and in the scope of work, are given in the tender document for guidance. Alternate equivalent makes (brands) may also be used subject to:

a) The contractor submits all documents to the satisfaction of the NIT approving authority/SE(Puducherry) or his successor thereof to prove that the alternate make meets the contract specifications in all respect and is equivalent to the specified make.

b) The necessary cost adjustments, if any, on account of the above change shall be made by the Engineer in charge.

c) The NIT approving authority/SE(Puducherry) or his successor thereof approves the alternate equivalent make.

1.66 Defect liability period:

(i) Defect liability period shall be as per conditions laid down in applicable General Conditions of Contract for CPWD from the date of handing over the building to the User/ Owner/ Client complete in all respects & fit for occupation. During this period, the defects noticed in the work shall be rectified by the contractor at his own cost. In case he fails to do so after intimation to him in writing by the Engineer in charge, the same shall be carried out by the Department at his risk and cost.

(ii) However, maintenance of other building activities such as cleaning, sweeping of pocket & desilting of sewer lines, S.W. Drain shall be done only once, at the time prior to handing over the building.

1.67 Compliance of directives of Hon'ble National Green Tribunal (NGT) dated 04.12.2014 and 10.04.2015 and EIA Guidance Manual issued in February 2010.

The contractor shall comply with the following guidelines on the matter in pursuance of orders passed by Hon'ble National Green Tribunal.

(i) The contractor shall not store/ dump construction material or debris on metalled road.

(ii) 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.

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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.

(vii) 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.

(viii) The contractor shall compulsorily use of wet jet in grinding and stone cutting.

(ix) The contractor shall comply all the preventive and protective environmental steps as started in the MoEF guidelines, 2010.

(x) The contractor shall carry out on-road-inspection for black smoke generating machinery. The contractor shall use cleaner fuel.

(xi) The contractor shall ensure that all DG sets comply emission norms notified by MoEF.

(xii) 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.

(xiii) 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.

(xiv) Nothing shall be paid extra for fulfilling of all the above conditions except for the items existing in the schedule of quantities. For such items, work done shall be paid on the basis of the agreement rates.

1.68 The scope of work includes submission of five sets of hard copies of **all** drawings (in A0 size or any other size as directed by the Engineer in charge) i.e., Architectural, Structural, Service drawings and any other drawings related to this work to the Engineer in charge. The cost shall be deemed to be inclusive of rate quoted by the agency/ contractor and nothing extra shall be paid separately to the agency/ contractor for this item.

1.69 Recycling, Reuse, and Management of C&D Waste

The contractor shall use recycled construction and demolition (C&D) waste materials in the execution of work, subject to availability of a C&D waste processing plant and the following materials in the near vicinity. The Engineer in charge shall find out whether C&D waste processing plant is available in the near vicinity or not. In case the Engineer in charge finds that the plant is available in the near vicinity, the materials which are found available in the plant shall be used. The decision of Engineer in charge in writing shall be final and binding on all issues related to it.

1.70 **Use of Fly Ash Bricks/ Blocks & AAC Blocks**: Fly ash bricks, blocks made from recycled C&D waste, or AAC blocks may be used for masonry work in non-structural elements.

1.71 **Use of Recycled Aggregates & Sand**: Up to 20% recycled sand and 20% recycled aggregate, conforming to IS: 383-2016, may be used in non- structural elements of the project.

1.72 **Ready-Mix Concrete (RMC) Supply**: RMC plants supplying concrete for non-structural elements may use 20% recycled sand and 20% recycled aggregate, conforming to IS: 383-2016. Preference may be given to RMC plants that have an MoU or agreement with a C&D waste processing plant for sourcing recycled aggregates.

1.73 **Precast Tiles**: Precast tiles manufactured using up to 20% recycled materials from C&D waste, incorporating recycled sand and aggregate as per IS: 383-2016, may be used in the project.

1.74 **Sand Filling Requirements**: Manufactured sand obtained from a C&D waste processing plant, conforming to IS: 383-2016, may be used for sand filling applications such as filling under floors, behind retaining walls, and in approach roads.

1.75 **Concrete Blocks, Pavers, Kerb Stones, and Footpath Tiles**: CC blocks, paver blocks, kerb stones, and concrete tiles used in footpaths may incorporate recycled materials from C&D waste processing plants, conforming to IS: 383-2016.

1.76 **Cement Plaster Requirements**: Manufactured sand obtained from a C&D waste processing plant, conforming to IS: 383-2016, may be used for cement plastering works.

1.77 **Quarterly Demand Forecasting**: If the contractor opts to use recycled materials, quarterly demand forecasts should be shared with C&D waste processing plant operators for better planning and scheduling of plant operations.

All materials used shall comply with relevant IS codes and shall be executed as per the technical specifications, bid document requirements, and the direction of the Engineer-in-Charge.

1.78 No claim whatsoever for idle labour, additional establishments, costs of hire and labour charges for tools and plants etc. would be entertained under any circumstances.

1.79 For the safety of all labour directly or indirectly employed in the work for the performance of the contractor's part of this agreement, the contractors shall, in addition to the provisions of CPWD safety code and directions of the Engineer-in-charge make all arrangements to provide facility as per the provisions of Indian Standard Specifications (Codes) listed below and nothing extra shall be paid on this account.

1. IS 3696 Part I Safety Code for scaffolds and ladders
2. IS 3696 Part II Safety Code for scaffolds and ladders Part II ladders
3. IS 764 Safety Code for excavation work
4. IS 4111 Safety Code for Blasting and Drilling operations,
5. IS4138 Safety Code for working in compressed air.
6. IS 7293 Safety Code for working with construction machinery
7. IS 7969 Safety Code for storage and handling of building materials

1.80 The contractor shall take all precautions to avoid all accidents by exhibiting necessary cautionboards and by providing red flags, red lights and barriers. The contractor shall be responsiblefor any accident at the site of work and consequences thereof.

1.81 EPF and ESIC paid by the contractor to the concerned department and on demand the applicable contributions as per GCC will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the contractor.

1.82 The contractor has to make arrangements for providing inspection lift for the inspection of various floors by department officers, wherever applicable.

1.83 The testing of materials shall be carried out from the IITs , NITs, Central / State Government Engineering Colleges or any approved laboratories as approved by the SDG (Chennai.)

1.84 The provisions of deviation / extra items in a contract must be utilised exclusively within the scope of particular work and in no case be extended to other works under any circumstances.

1.85 The RMC & Hotmix Plants shall be got approved by the Superintending Engineer, Puducherry and Contractor shall ensure that the quality and strength of cement concrete & Hot mix procured from RMC & Hot Mix Plants respectively, are as per design requirement through a well defined quality control system, testing of samples, transportation of concrete & Hot mix and continuous analysis of results as per CPWD specifications and relevant India standards.

1.86 Restrictions may be imposed by the security staff of client department etc., on the working and for the movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.

1.87 The demolishing of existing building/structure work will be carried out in the manner complying in all respects with the requirements of relevant bye laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.

1.88 DURING INSPECTION AND TESTING

The Engineer-in-charge or officer(s) authorized by him may inspect the material at manufacturer's facility in India before dispatch. The department reserves the right to get the furniture & fixtures inspected by third party also. Such inspection shall be of the following categories:

a) Inspection of materials/ furniture & fixture to be witnessed at the manufacturer's premises/ at its authorized manufacturing facility in India, in accordance with relevant BIS/ Agreement Inspection Procedure.

b) To receive material at site with manufacturer's Routine & Type Test certificates.

c) To inspect material at the authorized dealer's godown to ensure delivery of genuine material.

d) To receive material after physical inspection at site.

Bidder shall take adequate care to ensure that only tested and genuine materials of proper quality are used in work The bidder shall ensure that: Material will be ordered and delivered at site only with prior approval of the department. The bidder shall, however, be responsible for timely delivery of material. As and when the order is placed for the items, it shall be endorsed to the engineer-in-charge along with details of Agency, model no. and other delivery details.

15. PARTICULAR SPECIFICATION AND SPECIAL CONDITIONS FOR CEMENT & STEEL BROUGHT BY THE CONTRACTOR

2.1 CEMENT –

2. The contractor shall procure cement (43 grade OPC conforming to IS:8112/ PPC fly ash based conforming to IS:1489-part-I / Portland Slag Cement conforming to IS: 455) as required in the work, from reputed manufacturers of cement as mentioned in the list of approved brands / makes such as **ACC, Birla, J.K., Coromandal, Ultratech, Zuari, Ambuja and Dalmia Bharat cement**. Supply of cement shall be taken in 50kg 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 tested 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. Every fresh cement batch should be brought to site at least 30 days before they are to be used / consumed in the work.

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

4. The cement godown of the capacity to store a minimum of 2000 bags capacity or 2 months requirement whichever higher, shall be constructed by the contractor at site of work for which no extra payment shall be made. Double lock provision shall be made to the door of cement godown. The keys of one lock shall remain with Engineer-in-Charge or his authorized representative and keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge or his authorized representatives.

5. The cement shall be got tested by the 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 frequency and details of the tests shall be decided by the Engineer-in-Charge depending on the quantum of supply in each batch. The cost of tests shall be borne by the contractor.

6. The actual consumption of cement on work shall be regulated and proper accounts be maintained by the contractor. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by the conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at rate so prescribed shall be made. In case of excess consumption, no adjustment shall be made. 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.

7. Damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-charge shall get it removed at the cost of the contractor.

8. The cement bags shall be stacked on proper floors consisting of two layers of dry bricks laid on well-consolidated earth at a level of at least one foot above ground. The stacks shall be in rows of 2 and 10 bags high with minimum of 0.6m clear. Bags should be placed horizontally continuous in each line. Actual size / shape of go down shall be as per site requirement and nothing extra shall be paid on this account. The decision of Engineer-in-charge regarding capacity shall be final.

9. Cement register for the cement shall be maintained at site. The account of daily receipts and issues of cement shall be maintained in the register in the proforma prescribed and signed daily by contractor or his authorized agent.

16. SPECIAL CONDITIONS FOR STEEL REINFORCEMENT BROUGHT BY THE CONTRACTOR

1. Steel Reinforcing Bars, the Guidelines prescribed in OM No. CSQ/SE(TAS)/Steel/@024/262 (H), Dt.14.08.2024 of SE (TAS), Directorate Genera, Nirman Bhawan, New Delhi shall be followed.
2. The Contractor shall procure IS marked low alloy TMT bars of various grades from the steel Manufacturers such as **SAIL, TISCO (TATA), VIZAG and JSW** or their authorised dealers having valid BIS license for IS: 1786 (latest version with upto date Amendments)
3. 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.
4. 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 as defined under para 1 above, 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.
5. 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.
6. Steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent 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.
7. For checking nominal mass, tensile strength, bend test, re-bend test, etc., specimens of sufficient length shall be cut from each size of the bar at random, and at frequency given in applicable CPWD specifications.
8. The contractor shall supply free of charge the material required for testing. All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.
9. The actual issue and consumption of steel on work shall be regulated and proper accounts shall be maintained as provided in relevant clause of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in relevant clause 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.
10. The steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer in charge.

17. SPECIFIC CONDITIONS (CIVIL COMPONENT)

1. EARTH WORK: -

1.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol.IIand National Building Code 2016 with upto date correction slips.

2. CONCRETE WORK: -

The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol. IIwith upto date correction slips.

3. PLAIN CEMENT CONCRETE/LEAN CONCRETE:

Plain Cement Concrete / Lean concrete (M-10) in required thickness as per design shall be laid below all type foundation works, below kerb stone, under floors or wherever required as per CPWD Specifications- 2019 Volume - I & II with correction slips up tothe last date of submission of tender documents.

4. Procurement of Centering and Shuttering

The steel/ marine ply centering and shuttering and other connected materials required for shuttering an area of **2,000 sqm ± 10%** or as decided by the Engineer in charge shall be made available within 60 days of date of start of work, failing which recovery will be made as decided by Engineer in charge not exceeding Rs. 10,000/- per day till the materials are made available at site upto the satisfaction of Engineering-in-charge. The recovery will be effected in the next running account bill itself. The material so brought shall not be removed from the site of work, unless all connected works are completed and approval of Engineer in charge is obtained. The decision of the Engineer in charge in this regard shall be final and binding upon the contractor.

5. PARTICULAR SPECIFICATIONS

1) Form work

The work shall be done in general as per CPWD Specifications.

(a) Only M.S. Centering/ Shuttering and Scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor to be approved by the Engineer in charge.

(b) Double steel scaffolding having two sets of vertical supports shall be provided for external wall finish, cladding etc. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding platform shall be fixed. Scaffolding shall have steel staircase

for inspection works at upper levels.

(c) In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.

(d) As per general engineering practice, level of floors in toilet/ bath, balconies, shall be kept 12 to 20mm, lower than general floors as required shuttering should be adjusted accordingly. The landing level of mumty/ Staircase cabin shall be kept one riser level higher than adjoining slab level so as to accommodate water proofing treatment over terrace slab. In case of kitchen slab the portion of floor trap below kitchen platform be kept at lower level as per drawings. Nothing extra is payable on this account.

(e) Steel shuttering as approved by the Engineer in charge only shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required to complete the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work. The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or de-bonding compound shall be applied on the surface of the shuttering plates in the requisite quantity before assembly of steel reinforcement.

(f) For the execution of centring and shuttering, the contractor shall use propriety 'Reebole" chemical mould release agent of FOSROC or equivalent as shuttering oil as approved by Engineer in charge and nothing extra shall be paid on this account.

6. RCC work (Design Mix Concrete)

The Mix Design shall be got done by the contractor from a NABL accredited laboratory/ IIT/ NIT laboratory with the approval of Engineer in charge, at his own cost. The RCC Work shall be carried out as per the Mix Design approved by the Engineer in charge before start of RCC work.

6.1 General

The RCC work shall be done with RMC or 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. The Ready Mix Concrete shall be as per IS:4926 and as per CPWD Specification and guide lines. For the nominal mix in RCC, CPWD specification shall be followed. The Design Mix Concrete will be designed based on the principles given in IS:456, 10262 and SP 23. The contractor shall carry out design mixes for each class of concrete indicating that the concrete ingredients and proportions will result

in concrete mix meeting requirements specified. The cement shall be actually weighed as presumption of each bag having 50 kg shall not be allowed. In case of use of admixture, the mix shall be designed with these ingredients as well. The specification mentioned herein below shall be followed for Design Mix Concrete.

6.1.1 Ingredients

6.1.1.1 Coarse Aggregate: As per CPWD Specifications

6.1.1.2 Fine Aggregate: As per CPWD Specifications.

6.1.1.3 Water: As per requirements laid down in IS 456-2000 and CPWD specifications.

6.1.1.4 Cement: Cement arranged by the contractor will be PPC (in bags) conforming to IS:1489:2015 (Part-I & Part-II)

6.1.2 Admixture

The type of Admixture shall be got approved from Engineer in charge. Admixtures of approved quality shall be mixed with concrete to achieve the desired workability within the specified water cement ratio. The admixture shall conform to IS:9103. The chloride content in the admixture shall satisfy the requirement of BS:5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS:456-2000.

The department shall not be paid anything extra to the contractor/ agency for the cost of admixture required for achieving desired workability without any change in specified water cement ratio for RCC/ CC work.

6.1.3 Grade of Concrete:

The characteristic compressive strength of various grades of concrete shall be given as below:

Sl. No	Grade Designation	Compressive strength on 15cm cubes min 7 days (N/mm2)	Specified characteristic compressive strength at 28 days (N/mm2)	Minimum cement content* (kg per cum)	Maximum water cement ratio
(i)	M-40	As per Design	As per IS 456	As per IS 456	As per IS 456
(ii)	M-35	As per Design	As per IS 456	As per IS 456	As per IS 456
(iii)	M-30	As per Design	As per IS 456	As per IS 456	As per IS 456

(iv)	M-25	As per Design	As per IS 456	As per IS 456	As per IS 456
(v)	M-10	As per Design	As per IS 456	As per IS 456	As per IS 456

In the designation of concrete mix letter M refers to the mix and the number to the specified characteristic compressive strength of 15 cm Cube at 28 days expressed in N/mm2.

6.1.4 Workability of Concrete:

The following are the required workability of concrete, unless otherwise specified elsewhere or as decided by Engineer in charge.

Placing Conditions	Degree of Workability	Slump (mm)
(1)	(2)	(3)
Lightly reinforced sections in slabs, beams, walls, columns	Low	25-75
Heavily reinforced sections in slabs, beams, walls, and columns.	Medium	50-100
Pumped concrete	Medium	75-100

In addition, the recommended values of slump for various members shall confirm to IS 456:2000 amended from time to time.

The Concrete mix shall be designed for minimum workability as specified in IS:456-2000.

6.1.5 Testing of Design Mix in Lab:

(i) The concrete design mix with or without admixture will be got cementious material carried out by the contractor by any reputed NABL accredited laboratory as per direction of Engineer in charge.

(ii) For such approval various ingredients for mix design as submitted by contractor shall be sent to the lab/ test houses through the Engineer in charge of the project and got it tested in approved laboratories as may be decided by the Engineer in charge. Sample of aggregate sent shall be preserved at site by the department for each different set of Coarse aggregates & Fine aggregates, fresh design shall be done and got

approved by the Department. The admixture if used by contractor shall be at his own cost without any extra payment.

(iii) Note: For RMC OPC shall be used in combination with GGBS as follows:

Part of OPC 43 grade cement (conforming to IS8112) can be substituted with Ground Granulated Blast furnace slag (GGBS) to a maximum of 30%. The physical and chemical properties of GGBS shall conform to IS: 12089-1987 (Reaffirmed 2008). Uniform blending with OPC 43 grade cement to be ensured in accordance with clauses

5.2 and 5.2.1 of IS:456-2000.

(iv) In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted in approved by Engineer in charge shall be submitted by the contractor as per the direction of the Engineer in charge.

6.1.6 Approval of Design Mix:

(i) The mix design for a specified grade of concrete shall be done for a target mean compressive strength Tck = Fck + 1.65s

OR

Tck = Fck + X whichever is higher as per IS:10262 (latest version)

Where Fck = Characteristic Compressive Strength at 28 days

s = Standard deviation which depends on degree of quality control X = Factor based on the grade of concrete

(ii) 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 per IS relevant IS Standards/ Codes.

(iii) 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 to be attained at 28 days.

6.1.7 Charges For Design Mix:

All costs of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the contractor.

6.2 Design Mix Concrete from Fully Automatic Computerised Concrete Batching and Mixing Plant

A. Proportioning Concrete

In proportioning cement concrete, the quantity of both cement and aggregates shall be determined by weight. The cement shall be weighed separately from the aggregates. Water shall either be measured by volume in calibrated tanks

or weighed. All measuring equipment shall be maintained in a clean and serviceable condition. The amount of mixing water shall be adjusted to compensate for moisture content in both coarse and fine aggregates. The moisture content of aggregates shall be determined in accordance with IS:2386 (Part III). Suitable adjustments shall also be made in the weights of aggregates to allow for the variation in weight of aggregates due to variation in moisture content.

B. Production of Concrete

The concrete shall be RMC produced in a central batching and mixing plant with, computerized printing for contents and admixture dosage. The batching plant shall be fully automatic. Automatic batcher shall be charged by devices which, when actuated by a Single starter switch will automatically start the weighing operation of each material and stop automatically, when the designated weight of each material has been reached. The batching plant shall have automatic arrangement for dispensing the admixture and shall also be capable of discharging water in more than one stage. A print out from the batching plant for every lot shall be submitted. A batching plant essentially shall consist of the following components: Separate storage bins for different sizes of aggregates, silo for cement; and water storage tank.

a) Batching equipment

b) Mixers

c) Control panels

d) Mechanical material feeding and elevating arrangements

e) The Contractor shall arrange for inspection of automatic batching plant within seven days of issue of letter of award to facilitate inspection and approval of same by Engineer in charge. Nothing extra will be paid for this.

(i) The compartments of storage bins for aggregates shall be approximately of equal size. The cement compartment shall be centrally located in the batching plant. It shall be watertight and provided with necessary air vent, aeration fittings for proper flow of cement & emergency cement cut off gate. The aggregate and sand shall be charged by power operated centrally revolving chute. The entire plant from mixer floor upward shall be enclosed and insulated. The batch bins shall be constructed so as to by self-cleansing during drawdown. The batch bins shall in general conform to the requirements of IS:4925.

(ii) The batching equipment shall be capable of determining and controlling the prescribed amounts of various constituent materials for concrete accurately

i.e. water, cement, sand, individual size of coarse aggregates etc. The accuracy of the measuring devices shall fall within the following limits.

Measurement of Cement	±2% of the quantity of cement in each batch
Measurement of Water	±3% of the quantity of water in each batch
Measurement of Aggregate	±3% of the quantity of aggregate in each batch
Measurement of Admixture	±3% of the quantity of admixture in each batch

C. Mixing Concrete

The mixer in the batching plant shall be so arranged that mixing action in the mixers can be observed from the operator's station. The mixer shall be equipped with a mechanically or electrically operated timing, signalling and metering device which will indicate and assure completion of the required mixing period. The mixer shall have all other components as specified in IS:4925.

D. Transportation, Placing and Compaction of Concrete

(i) Mixed concrete from the batching plant shall be transported to the point of placement by transit mixers or through concrete pumps or steel closed bottom buckets capable of carrying 6 cum concrete. In case the concrete is proposed to be transported by transit mixer, the mixer speed shall not be less than 4 rev/ min. of the drum nor greater than a speed resulting in a peripheral velocity of the drum as 70 m/ minute at its largest diameter. The agitating speed of the agitator shall be not less than 2 rev/ min. nor more than 6 rev/ min. of the drum. The number of revolutions of the mixing drum or blades at mixing speed shall be between 70 to 100 revolutions for a uniform mix, after all ingredients, have been charged into the drum. Unless tempering water is added, all rotation after 100 revolutions shall be at agitating speed of 2 to 6 rev/ min. and the number of such rotations shall not exceed 250. The general construction of transit mixer and other requirements shall conform to IS: 5892.

(ii) In case concrete is to be transported by pumping, the conduit shall be primed by pumping a batch of mortar/ thick cement slurry through the line to lubricate it. Once the pumping is started, it shall not be interrupted (if at all possible) as concrete standing idle in the line is liable to cause a plug. The operator shall ensure that some concrete is always there in the pump- receiving hopper during operation. The lines shall always be maintained clean and shall be free of dents.

(iii) Materials for pumped concrete shall be batched consistently and uniformly. Maximum size of aggregate shall not exceed one-third of the internal diameter of the pipe. Grading of aggregate shall have sufficient

ultrafine materials (materials finer than 0.25mm). Proportion of fine aggregates passing through 0.25mm shall be between 15 & 30% and that passing through 0.125 mm sieve shall not be less than 5% of the total volume of aggregate. When pumping long distances and through hot weather, set-retarding admixtures may be used. Admixtures to improve workability can be added. Suitability of concrete shall be through pumping shall be verified by trial mixes and by performing pumping tests.

6.3 **Preparation of Mixes as per Approved Design Mix and conducting confirmatory test at Field Lab.**

(i) The contractor shall make the cubes of trial mixes as per approved Mix design at site laboratory for all grades, in presence of Engineer in charge using sample of approved materials proposed to be used in the work prior to commencement of concreting and get them tested in his presence to his entire satisfaction for 7 days and 28 days. Test cubes shall be taken from trial mixes as follows.

(ii) For each mix, a set of six cubes shall be made from each of the three consecutive batches. Three cubes from each set of six shall be tested at age of 7 days and remaining three cubes at age of 28 days. The cubes shall be made, cured, transported and tested strictly in accordance with specifications. The average strength of nine cubes at age of 28 days shall exceed the specified target mean strength for which design mix has been approved, the evaluation of test results will be done as per IS : 456-2000.

6.4 **Work Strength Test**

A. Test Specimen

Work strength test shall be conducted in accordance with IS: 516 on random sampling. Each test shall be conducted on six specimen, three of which shall be tested at 7 days and remaining three at 28 days. Additional samples shall be prepared, if required, as per direction of Engineer in charge for testing samples cured by accelerated method as described in IS:9103.

B. Test Results of Sample

The test results of the sample shall be the average of the strength of three specimen. The individual variation shall not be more than + - 15 percent of the average. If more, the test results of the sample are invalid. 90% of the total tests shall be done at the laboratory established at site by the contractor and remaining 10% in the laboratory of Government Engineering colleges, or in any other approved laboratory as directed by the Engineer in charge.

C. Standard For Acceptance

(i) Standard of acceptance shall be same as specified in clause 16 of IS 456-2000.

(ii) In order to keep the floor finish as per direction of Engineer in charge and as per Architectural drawings and to provide required thickness of the flooring as per

specification, the level of top surface of RCC shall be accordingly adjusted at the time of its centring, shuttering and casting for which nothing extra shall be paid to the contractor.

6.5 **Ultrasonic Pulse Velocity Method of Test for RCC**

(i) The underlying principle of assessing the quality of concrete is that comparatively higher velocities are obtained when the quality of concrete in terms of density, homogeneity and uniformly is good. The consistency of the concrete as regards its general quality gets established. In case of poorer quality lower velocities are obtained. If there are cracks, voids or flaws inside the concrete which come in the way of transmission of pulse, lower velocities are obtained.

(ii) The quality of concrete in terms of uniformity, incidence or absence of internal flaws, cracks and segregation etc. indicative of the level of workmanship employed, can thus be assessed using the guidance given in table below, which have been evolved for characterizing the quality concrete in structure in term of the ultrasonic pulse velocity.

Velocity criterion for Concrete Quality Grading;

Sl. No.	Pulse velocity by Cross Probing (km/sec)	Concrete Quality Grading
1	Above 4.40	Excellent
2	3.75 to 4.40	Good
3	3.0 to 3.75	Doubtful
4	Below 3.0	Poor

(Note: In Case of "doubtful" quality it may be necessary to carry further tests. Poor shall be rejected)

(iii) Pulse velocity method of test of concrete is to be conducted for CPWD works as a routine test. The acceptance criteria as per the above table will be applicable which is as per IS:516 (Part-5 Sec-I) 2018. From the above "Good" and "Excellent" grading are acceptable and below these grading the concrete will not be acceptable.

(iv) 5% of the total number of RCC members in each category i.e. beam, column, slab and footing may be tested by UPV test method for establishing quality of concrete. It is suggested that test be conducted on RCC beam near joint with column, on RCC column near joint with beam, on RCC footings and rafts. On RCC rafts a suitable grid can be worked out for determining number of tests. In

addition doubtful areas such as honeycombed locations, locations, where continuous seepage is observed, construction joints and visible loose pockets will also be tested.

(v) The test results are to be examined in view of the above acceptance criteria "Good" and "Excellent" and wherever concrete is found with less than required quality as per acceptance criteria, repairs to concrete will be made. Honeycombed areas and loose pockets will be repaired by grouting using Portland Cement Mortar/ Polymer Modifies Cement Mortar/ Epoxy Mortar, etc., after chipping loose concrete in appropriate manner. In areas where concrete is found below acceptance criteria and defects are not apparently visible on surface, injecting approved grout in appropriate proportion using epoxy grout/ acrylic Polymer modified cements slurry made with shrinkage compensating cement/ plain cement slurry etc will be resorted to for repairs (refer relevant chapters from CPWD Hand Book on Repairs and Rehabilitation of RCC Buildings). Repair to concrete will be done till satisfactory results are obtained as per the acceptance criteria by retesting of the repaired area. If satisfactory results are not obtained dismantling and relaying of concrete will be done at the cost of contractor.

6.6 Measurement

As per applicable CPWD specifications

6.7 Tolerances

As per applicable CPWD specifications

6.8 Rate

(i) The rate includes the cost of materials and labour involved in all the operations described above.

(ii) In case of actual average compressive strength being less than specified strength which shall be governed by para "Standard of Acceptance" as above the rate payable shall be worked out accordingly on the basis of analysis.

(iii) In case of rejection of concrete on account of unacceptable compressive strength, governed by para 'Standard of Acceptance' as above, the work for which samples have failed shall be redone at the cost of contractors. However, the Engineer in charge may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure or part of structure etc) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests.

The contractor shall take remedial measures necessary to retain the structure as approved by the Engineer in charge without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28

days cube test results and reduced rates shall be regulated in accordance with para 5.4.13.2 of CPWD specification 2019 Vol-I.

6.9 Cover / Spacer Block

The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings, spacer blocks of required shape and size. Chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. Spacer blocks shall be cast well in advance with approved proprietary pre-packed free flowing mortars (Conbextra as manufactured by M/s Fosroc Chemicals India Ltd. Or equivalent as approved by the Engineer in charge at his discretion) of high early strength and same colour as surrounding concrete, Pre-cast cement mortar/ concrete blocks/ blocks of polymer shall not be used as spacer blocks unless specially approved by the Engineer in charge, rate of RCC items is inclusive of cost of such cover blocks.

7. Flooring

a) All the work in general shall be carried out as per applicable CPWD Specifications.

b) The vitrified tiles shall be as specified. The tiles shall be of specified colours as shown in the drawings or as decided by the Engineer in charge and will be laid in pattern as per architectural drawings or as decided by the Engineer in charge. Nothing extra shall be paid for laying tiles in specific pattern. The tiles shall be of first quality of approved make.

c) Proper gradient shall be given to flooring for toilets, veranda, kitchen, courtyard etc. so that the wash water flows towards the direction of floor trap. Any reverse slop if found, these shall be made good by the contractor by ripping open the floor/ grading concrete and nothing extra shall be paid for such rectifications.

d) The flooring and skirting will be executed as per pattern shown in the Architectural drawings and/ or as per approval of Engineer in charge.

e) Single piece stone shall be used in treads, risers etc. of staircase and platform of kitchen, pantry etc. and other similar places.

f) There shall be a level difference in the finished floor of following areas:

Sl. No.	Higher area	Lower area	Level Difference
1	Rooms	Corridor	10 mm
2	Staircase lobby/ landing	Terrace	50 mm

3	Room/ Corridor	Balcony	25 mm
4	Corridor	Toilet floor	10 mm
5	Toilet floor	WC & Bathroom	10 mm

The level difference shall be finished with at least 100mm wide strip of granite with nosing. However, final decision on Level difference, width of strip, type of material, higher area, lower area etc., will be as decided by Engineer in Charge.

Any screed concrete/ cement mortar required to maintain the level of different types of flooring and to create level difference as mentioned in the above table shall be provided by the contractor for which nothing extra shall be payable.

8. Stone Flooring

(i) All work in general shall be carried out as per applicable CPWD Specifications.

(ii) Whenever flooring is to be done in patterns of stones, the contractor shall get samples of each pattern laid and approved by the Engineer in charge before final laying of such flooring. Nothing extra shall be payable on this account.

(iii) The samples shall not be of a size less than 400mm x 400mm or as required by Engineer in charge.

(iv) The sample produced shall be fully supported by the details of location/ quarry and the same shall not be removed except with the written permission of Engineer in charge. Samples for Flame burnt/ finish granite shall be produced separately. Flame burning shall be carried out after the selection of the basic granite sample. Flame burning shall be uniform and with a uniform texture across the entire surface of the slab. The Flame burning of the stone slab shall be inspected by the Engineer in charge as and when found necessary and full support for the inspection shall be provided. Full width stone over kitchen platform shall be provided except to adjust for closing pieces. The marble/ any stone flooring in treads and risers of stair case is to be laid in single piece. 40 mm wide sand blasted strip at a distance of 50mm from the edge of the tread to create contrasting colour shall be provided, if required by the Engineer in charge. Nothing extra shall be paid on these accounts.

(v) The plinth area rate, wherever applicable, offered is inclusive of providing sunken flooring in bathrooms, kitchen etc. Proper gradient shall be given to flooring for toilets, veranda, kitchen, courtyard, etc. as per the directions of Engineer in charge.

Nothing extra shall be paid on these account.

(vi) The stone flooring will be laid in pattern as per the Architectural drawings and/ or as decided by the Engineer in charge and nothing extra shall be paid for providing flooring in specific pattern.

9. Wood work:

The wood work in general shall be carried out as per applicable CPWD Specifications.

(i) The samples of species of timber to be used shall be deposited by the contractor with the Engineer in charge before commencement of the work. The contractor shall produce cash vouchers and certificates from standard kiln seasoning plant operator about the timber to be used on the work having been kiln seasoned by them, failing which it would not be accepted as kiln seasoned.

(ii) Specified timber shall be of good quality and well-seasoned. It shall have uniform colour, reasonably straight grains and shall be free from knots, cracks, shakes and sapwood.

(iii) Wood work shall not be painted, oiled or otherwise treated before it has been approved by the Engineer in charge.

(iv) All fittings and fixtures shall be got approved from the Engineer in charge before procurement well in advance and the approved samples shall be kept at site till completion of the work.

(v) Factory made wooden shutter, as specified shall be obtained from factories to be approved by the Engineer in charge, shall conform to relevant IS Code. The contractor shall inform well in advance to the Engineer in charge the name and address of the factory where from he intends to get the shutters manufactured. The contractor will place order for manufacturing of shutters only after written approval of the Engineer in charge in this regard is given. The contractor is bound to recommend name(s) of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters. Shutters will however, be accepted only if they meet the specified tests. The contractor will also arrange stage wise inspection of the shutters at factory by the Engineer in charge or his authorized representative. The contractor will have no claim if the shutters brought at site are rejected by the Engineer in charge in part or in full lot due to bad workmanship/ quality. Such shutters will not be measured and paid. The contractor shall remove the same from the site of work within 7 days after the written instructions in this regard are issued by the Engineer in charge.

(vi) The shutters should be brought at site without primer/ painting.

(vii) Inspection of shutters shall be carried out for dimensions & tolerances, size & type, general construction & workmanship, finish & glazing at the frequency specified in applicable CPWD Specifications.

(viii) **Criteria for conformity**

As per applicable CPWD Specifications

(ix) **Testing**

As per applicable CPWD Specifications

(x) **Finish:**

a. All components of door shutter shall have smooth finish.
b. Panels of the door shutters shall be flat and well sanded to a smooth and level surface.
c. All the surfaces of door shutters which are required to be painted or polished or varnished shall be got approved from the Engineer in charge before applying protective coat of primer, polish or varnish.

10. Specification for Aluminium Fittings for doors:

(a) The aluminium fittings and fixtures shall be machine made and free of fabrication marks, residual effects of welding/ riveting etc., with anodic coating not less than grade AC 10 as per IS.1868 transparent or dyed to required colour or shade with necessary screws.

(b) The fitting shall be finished in a Satin finish (brushed finish-satin's commercial purpose) except wherever specified otherwise. The brush effect shall be uniform and without any variations.

(c) Irrespective of the stipulations contained above, the contractor shall produce samples for all the fitting in advance and a written approval for the chosen sample shall be obtained from the Engineer in charge. The decision of the Engineer in charge in respect of the specification, quality and make of fitting to be used at site shall be final and binding on the contractor. Nothing extra shall be payable on this account.

(d) All the fittings shall be provided with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the schedule of quantities, specification & elsewhere in this bid document. The quoted rates shall be deemed to be all inclusive for a complete item fit for use including all material. Labour, T & P, Specials, fixing arrangements, nuts, bolts, screws, bushes, all required connection pieces etc. as well as making good the surface wherever required.

11. Finishing:

(i) The work shall be carried out as per applicable CPWD Specifications.

(ii) The plastering work shall be carried out as per applicable CPWD Specifications.

(a) Necessary Geo-synthetic fibre/ GI chicken wire mesh of minimum 200 mm wide shall be provided at junctions of dissimilar materials (i.e.

masonry walls with RCC members etc.) before plastering on inner and outside of junctions.

(b) Necessary grooves shall be provided at the junction of dissimilar materials (on inner and outer side of junctions) and shall be neatly finished wherever directed by Engineer in Charge. Necessary drip course shall be provided in Chajjas, Balcony, Projecting Roof, Beams etc.

Nothing extra shall be payable for the items mentioned at (a) & (b) above.

(iii) The Primer, Synthetic Enamel paint, distemper, acrylic emulsion paint, etc., of makes as approved by the Engineer in charge and of low VOC, shall only be used and brought to the site of work in the original sealed containers. The material brought to the site of work shall be sufficient for at least 60 days of work or as decided by the Engineer in charge. The material shall be kept under the joint custody of contractor and representative of the Engineer in charge. The empty containers shall not be removed from the site till the completion of the work without permission of the Engineer in charge.

12. Water Supply, Sanitary Installations, Drainage etc.,

(i) The contractor shall furnish all labour, material and equipment, transportation and incidental necessary for supply, installation, testing and commissioning of the complete Plumbing/ system as described in the Specifications and as shown on the drawings. This also includes any material, equipment, appliances and incidental work not specifically mentioned herein or noted on the Drawings/ Documents as being furnished or installed, but which are necessary and customary to be performed under this contract.

(ii) The Plumbing/ Sanitary system shall comprise of following:

(a) Sanitary and water supply Fixtures and Fittings

(b) Internal and External Water Supply

(c) Internal and External Drainage

(d) Approval from Local Authorities

(e) Balancing, testing & commissioning

(f) Test reports and completion drawings

(iii) The contractor shall procure and install all pipes, Sockets/ Nipples including shut-off valve etc as specified.

(iv) The contractor shall ensure that senior and experienced plumbers are assigned exclusively for this work. Such plumber(s) should have valid license from the local authorities. The project management shall be done through modern technique. For quality control & monitoring of workmanship, contractor shall

assign at least one engineer who would be exclusively responsible for ensuring strict quality control, adherence to specifications and ensuring top class workmanship for the installation.

(v) The work shall be in conformity with the Bye-laws, Regulations and Standards of the local authorities concerned. But if these Specifications and drawings call for a higher standard of materials and/ or workmanship than those required by any of the above regulations and standards, then these Specifications and drawings shall take precedence over the said regulations and standards. However, if the drawings and specifications require something which violates the Bye-laws and Regulations, then the Bye-laws and Regulations shall govern the requirement of this installation.

(vi) The contractor shall obtain all permits/ licenses and pay for any and all fees required for the inspection, approval and commissioning of their installation. However, all receipted amount shall be reimbursed on production of proof of payment.

(vii) The Plumbing drawings are to be given by the contractor for obtaining approval from Engineer in charge. The Plumbing/ Sanitary Drawings given by the Engineer in charge or issued with tenders are diagrammatic only and indicate arrangement of various systems and the extent of work covered in the contract. These Drawings indicate the points of supply and of termination of services and broadly suggest the routes to be followed. Under no circumstances shall dimensions be scaled from these Drawings. The contractor shall follow these drawings in preparation of his shop drawings, and for subsequent installation work.

(viii) The contractor shall examine all architectural, structural, plumbing, electrical and other services drawings and check the as-built works before starting the work, report to the Engineer in charge any discrepancies and obtain clarification. Any changes found essential to coordinate installation of his work with other services and trades, shall be made with prior approval of the Engineer in charge without additional cost to the department.

(ix) All the shop drawings shall be prepared on computer through AutoCAD System based on Architectural drawings and site measurements. Contractor shall furnish, for the approval of Engineer in charge, the two sets of detailed shop drawings of complete work and materials including layouts for Plant room, Pump room, Typical toilets drawings showing exact location of supports, flanges, bends, tee connections, reducers, detailed piping drawings showing exact location and type of supports, valves, fittings etc; external insulation details for pipe insulation etc.

(x) These shop drawings shall contain all information required to complete the work. These drawings shall contain details of construction, size, arrangement, operating clearances, performance characteristics and capacity of all items of equipment, also the details of all related items of work by other contractors.

Each shop drawing shall contain tabulation of all measurable items of equipment/ materials/ works and progressive cumulative totals from other related drawings to arrive at a variation-in-quantity statement at the completion of all shop drawings. Minimum 4 sets of drawings shall be submitted after final approval along with CD. When he makes any amendments in the above drawings, the contractor shall supply two fresh sets of drawings with the amendments duly incorporated along with check prints, for approval. The contractor shall submit further four sets of shop drawings to the Engineer in charge for the exclusive use by the Engineer in charge and all other agencies. No material or equipment may be delivered or installed at the job site until the contractor has in his possession, the approved shop drawing for the particular material/ equipment/ installation.

(xi) Shop drawings shall be submitted for approval four weeks in advance of planned delivery and installation of any material to allow the Engineer in charge ample time for scrutiny. No claims for extension of time shall be entertained because of any delay in the work due to his failure to produce shop drawings at the right time, in accordance with the approved programme.

(xii) Samples of all materials like valves, pipes and fittings etc. shall be submitted to the Engineer in charge prior to procurement for approval and retention by Engineer in charge and shall be kept in their site office for reference and verification till the completion of the Project. Wherever directed a mock-up or sample installation shall be carried out for approval before proceeding for further installation without any extra cost.

(xiii) Approval of shop drawings shall not be considered as a guarantee of measurements or of building dimensions. Where drawings are approved, said approval does not mean that the drawings supersede the contract requirements, nor does it in any way relieve the contractor of the responsibility or requirement to furnish material and perform work as required by the contract.

(xiv) All materials and equipment shall conform to the relevant Indian Standards and shall be of the approved make and design. Makes shall be in conformity with list of approved manufacturers.

(xv) Balancing of all water systems and all tests as called for the CPWD Specifications shall be carried out by the contractor through a specialist group, in accordance with the Specifications and ASPE/ ASHRAE Guidelines and Standards. The installation shall be tested and shall be commissioned only after approval by the Engineer in charge. All tests shall be carried out in the presence of the representatives of the Engineer in charge and nothing extra shall be payable on this account.

(xvi) The contractor shall submit “completion plans of services” for water supply, internal installations and building drainage work within 15 days of the date of completion. These drawings shall be submitted in the form of two sets of CD’s and four portfolios (300 x 450 mm) each containing complete set of drawings on approved scale indicating the work as - installed. These drawings shall clearly

indicate complete plant room layouts, piping layouts and sequencing of automatic controls, location of all concealed piping, valves, controls and other services. In case the contractor fails to submit the completion plans as aforesaid, security deposit shall not be released and these shall be got prepared at his risk and cost.

(xvii) The CCI/ CI/ PVC pipe and GI pipe etc. wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs and nothing extra shall be paid for this.

(xviii) The variation in consumption of material shall be governed as per CPWD Specification and clauses of the contract to the extent applicable.

(xix) Rates quoted shall be inclusive of all work and items given in the above mentioned specifications and Schedule of Quantities and applicable for the work under floors, in shafts or at ceiling level at all heights and depths. All rates are inclusive of cutting holes and chases in RCC and masonry work and making good the same. Rates are inclusive of pre testing and onsite testing of the installations, materials and commissioning.

13. Cleaning and Disinfection of Pipelines

On completion of hydraulic tests and before a pipe is disinfected, it shall be proved to be free from obstruction, debris and sediment by scouring or by any other process which the Engineer in charge may prescribe. Upon satisfactory completion of testing and cleaning, the pipelines shall be disinfected as order. Chlorine solution shall be applied at the charging point as the pipeline is being filed and dosing shall be continued until the pipeline is full and at least 50 parts of chlorine per million parts of water have been made available and distributed evenly. If ordinary bleaching power is used, proportions will 150 gms of power to 1000 litre of water. If a proprietary brand is used, the proportion shall be as specified by the manufacturer. The treated water shall be left in pipeline for a period as directed but not exceeding 24 hours chlorine residual tests shall be taken at various points along the pipeline. The disinfection process shall be repeated until the sample of water taken from the pipeline are declared fit for human consumption by a recognized laboratory.

14. Stainless Steel Hand Rail

Providing, fabricating and fixing in position welded built-up section using stainless steel section/ pipes and connecting plates, of Grade SS 304 (SS 316 Grade shall be used for exterior applications) and of required diameter & thickness as per the Engineer in charge. Drawings and details, at the junctions of doors, on walls, other locations as directed etc. including cutting, welding, grinding, bending to required profile and shape, finish, hoisting, buffing and polishing, cutting chase/ embedding in RCC/ Masonry, fixing using stainless steel screws, nuts, bolts and washers or stainless steel fasteners as required to make it rigidly fixed & stable and making good the plaster/ flooring etc. all complete, at all floors and all levels as directed

by the Engineer in charge. Prototype samples to be approved by Engineer in charge before mass fabrication.

Rate includes cost of all inputs of materials, labour, T&P, etc. involved in the work and all incidental charges to execute this item.

15. Construction Joints

Construction joints in PCC, RCC and Light Weight Concrete works etc., shall be provided only at places as per approved structural drawings. It shall not in any manner structurally or functionally affect the structure. If, any additional construction joint is required to be provided, it shall be done with approval of the Engineer in charge. The centring, shuttering, strutting etc., required for the construction joint in PCC, RCC and Light Weight Concrete works shall be provided as per the CPWD Specifications. Nothing extra shall be payable on this account.

16. Treatment to the construction joints and rectification of defects

All care shall be taken to minimize the number of construction joints in the basement raft and walls as well as in the levelling course of PCC at base. Still, wherever the construction joints are provided, these shall be slightly opened up and then suitably filled with cement mortar 1:3 (1 cement: 3 fine sand) after applying a bond coat of cement slurry. The aluminium nipples shall be fixed in the cavity and crevices, if required. Then cement slurry of w/c ratio 0.5 shall be pressure grouted through these nipples as required, which shall then be suitably cut. Nothing extra shall be payable on this account.

All care shall be taken to avoid any honey combed concrete or any cavity. Still, if any honey combed concrete or cavity in RCC wall is encountered the same shall be rectified by removing all loose concrete by chiselling. The chipped concrete surface shall be cleaned and made dust free by blowing compressed air and then washed clean with water (but without excess water). Then a bond coat of polymer modified cement slurry @ 2.2 kg of cement per sqm of concrete surface, in two coats, shall be applied as specified. The second coat shall be applied immediately within 15-20 minutes of application of the first coat. A coat of polymer modified cement plaster of mix 1:3 (1 cement: 3 fine sand) of the required thickness shall be applied as specified to fill the cavity if the required thickness is less than 20

mm. If the required thickness is more than 20 mm. the cavity shall be filled by concrete of relevant grade after providing the required centering and shuttering. The surface shall then be moist cured for minimum 7 days. Nothing extra shall be payable on this account.

17. Expansion Joint

(a) General Seismic/ separation joints shall be provided where shown on the drawings. They shall be constructed with in gap between the adjoining parts for the works of the width specified in the drawings.

(b) The contractor shall ensure that no debris is allowed to enter and be lodged in seismic and separation joints.

(c) Seismic or separation joints shall be provided with approved 50mm thickness of compressible filer board, backer rod and polysulphide sealant compound etc.,

(d) Board to be used in expansion joint shall be of best approved quality and shall be got approved before use. It shall have minimum density of 95 kg/cum, Non staining with less than 1% water absorption and compression recovery of 93% minimum as per the specifications.

Method of Application

(e) 150mm thick expansion board having sufficient width directed by Engineer in charge shall be provided in expansion joint before filling and finishing the expansion joint with sealant.

(f) The expansion joint shall be cleaned and made dry completely. All loose materials shall also be removed. The joints gap shall be made uniform in width and depth after cleaning the joints. The backup materials of best quality shall be provided in position in order to produce the size of joint i.e. width and depth. The primer part of I and

II shall be mixed thoroughly together in required proportion as prescribed by manufacture specification, so that a uniform mixture obtained. The mixed solution shall be applied to two sides of the joint that it covers the sides complete.

(g) Disturbed edges of RCC members near expansion joints shall be finished with rich mortar without any extra work includes providing required width of expansion board in the joints and measurement of expansion board only shall be taken.

(h) Sampling criteria

Following test carried out at every 100 sqm:
(i) Density
(ii) Water absorption
(iii) Compression recovery

18. Gang saw cut granite floor slabs

The schedule provide for mirror polished/ leather finished granite slab flooring using Gang saw cut granite slabs. The size of such gang saw cut granite slabs shall not be less than 1.5m x 2.4m. The granite block shall be gang saw cut using water cutting process. The polishing of the cut stone slabs should be automatic machine polished to highly even surface without any undulations. Manual polished and kerosene cutting process slabs shall not be accepted and shall be rejected.

19. Solid cement concrete masonry block works

The cement concrete blocks shall strictly conform to the standards of IS 2185 (Part-I):2005 for manufacturing process as well as for physical requirements and tests. However, the density of blocks shall not be less than 2000 kg/m3. The CC blocks shall be manufactured for minimum average compressive strength of 70 kg/cm2. The water absorption being the average of three blocks when determined as per Annexure-E of IS 2185 (Part-I):2005 shall not be more than 10% by mass.

Water proofing treatment works

1. General

1.1 The work shall be got executed as per CPWD Specifications and as per the manufacturer's specification through specialized agency as approved by the Engineer in charge.

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

(a) The name of the specialized firm

(b) The trade names of the product, which would be used

(c) List of works where the treatment has been used

(d) Quantity of chlorides and sulphides used in the product

1.3 The main contractor shall submit the credential of specialized agency well in advance as per the direction of Engineer in charge. After verification of the same, written approval will be conveyed to main contractor in this regard. The quantum of credentials will be broadly in line with CPWD guidelines. The main contractor shall not change the specialized agency. However, if the change is warranted, he may do so, with permission of Engineer in charge. However before making any such change he has to enter into similar agreement as with previous agency & submit the same to Engineer in charge for approval. This shall however be without any change in the accepted rates of the contract agreement and without any cost implications to the Department.

1.4 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 or any dispute amongst them.

2. Guarantee for water proofing treatment

The contractor shall be fully responsible for and shall guarantee proper performance of the entire waterproofing system for a period of 10 (Ten) years from the final completion of works. In addition, specific 10 years written guarantee (to be furnished in a non-judicial stamp paper of value not less than Rs.200/-) in approved proforma shall be submitted for the performance of the system, before final payment and shall not in any way limit any other rights the Employer may have under the contract. Guarantee for water proofing shall comprises of all the items described above in particular specification.

All water-proofing work shall be carried out through approved specialist agency as per method of working approved by the Engineer in charge. However, the contractor shall be solely responsible for waterproofing treatment until the expiry of the above guarantee period.

Ten years guarantee in prescribed proforma attached shall be given by the contractor for the water proofing treatment. Towards that 10% (ten percent) of the cost of these items of water proofing under this sub head **worked out on quoted rate** 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 waterproofing 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 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 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.

TECHNICAL SPECIFICATIONS FOR PRE-CAST CONCRETE PAVING BLOCKS

BASE

The finished surface of the concrete base shall match the design the profile of theconcrete blocks with + or – 20 mm.
Compaction shall be done with vibrating roller.

BEDDING LAYER

The bedding shall be from either a single source or blended to achieve the following grading.

Sieve Size	% Passing
9.52 mm	100
4.75 mm	95-100
2.36 mm	80-100
1.18 mm	50-100
600 microns	25-60
300 microns	10-30
150 microns	5-15
75 microns	0-10

Single sized, gap-graded sands or those containing an excessive amount of fines will not be used. The sand particles should preferably be sharp not rounded.
The joint-filling sand should pass a 2.35 mm sieve and be well graded. The following grading has been shown to give good results.

Sieve Size	% Passing
2.36 mm	100
1.18 mm	90-100
600 microns	60-90
300 microns	30-60
150 microns	15-30
75 mircons	0-10

The use of cement in the joint-filling sand is not recommended as a general practice as the cemented sand is likely to crack into segments which are easily dislodged.

Average thickness of this laying course shall be 50mm with minimum of 40mm and a maximumof 80mm.

Humidity contents shall be atleast 4% by weight.

It should contain not more than 3% by weight of clay and silt and the materials shall be freefrom deleterious or contaminates.

The finished surface of the bedding layer shall match exactly the design profile as indicatedon the drawings.

Before placing the bedding layers, clean the surface of concrete by sweeping.

During construction the draining of the bedding and / or concrete use assured byperforations in the gully chambers at a matching level.

Do not allow any walking or driving on the finished surface of the bedding layers.

CONCRETE PAVING BLOCKS.

Laying of the blocks shall be done, precisely at the indicated level and profile and in a way that good surface draining to the gully chambers is assured.

Around gully chambers inspection pits etc. the pavement shall have a level of 5mm higher than the above mentioned elements.

The blocks shall be laid in an elbow pattern. The blocks shall be laid as tight as possible to each other and also along connections. The maximum joint width is limited to 4mm.

Laying of broken blocks is not allowed except along connections. The maximum length of a purpose broken block is 100mm. Breaking of the blocks shall be done with a block "block splitter".

Fine angular sand as per specification shall be brushed into the joints, thereafter compactionshall be done with a vibrating plate compactor on clean surface. After compaction again fine angular sand shall be brushed into the joints.

A well as before as after the compacting the maximum tolerance in profile under a lineal witha length of 3m shall be within + or – 5mm.

TECHNICAL SPECIFICATIONS FOR PRE-CAST CONCRETE PAVING BLOCKS

BASE

The finished surface of the concrete base shall match the design the profile of the concrete blocks with + or – 20 mm. Compaction shall be done with vibrating roller

BEDDING LAYER

The bedding shall be from either a single source or blended to achieve the following grading.

Sieve Size	% Passing
9.52 mm	100
4.75 mm	95-100
2.36 mm	80-100
1.18 mm	50-100
600 microns	25-60
300 microns	10-30
150 microns	5-15
75 mircons	0-10

Single sized, gap-graded sands or those containing an excessive amount of fines will not be used. The sand particles should preferably be sharp not rounded.

The joint-filling sand should pass a 2.35 mm sieve and be well graded. The followinggrading has been shown to give good results.

Sieve Size	% Passing
2.36 mm	100
1.18 mm	90-100
600 microns	60-90
300 microns	30-60
150 microns	15-30
75 microns	0-10

The use of cement in the joint-filling sand is not recommended as a general practice as the cemented sand is likely to crack into segments which are easily dislodged.

Average thickness of this laying course shall be 50mm with minimum of 40mm and a maximum of 80mm.

Humidity contents shall be at least 4% by weight. It should contain not more than 3% by weight of clay and silt and the materials shall be free from deleterious or contaminates.

The finished surface of the bedding layer shall match exactly the design profile as indicated on the drawings.

Before placing the bedding layers, clean the surface of concrete by sweeping.

During construction the draining of the bedding and / or concrete use assured by perforations in the gully chambers at a matching level.

Do not allow any walking or driving on the finished surface of the bedding layers.

20. CONCRETE PAVING BLOCKS.

Laying of the blocks shall be done, precisely at the indicated level and profile and in a way that good surface draining to the gully chambers is assured.

Around gully chambers inspection pits etc. the pavement shall have a level of 5mm higher than the above-mentioned elements.

The blocks shall be laid in an elbow pattern. The blocks shall be laid as tight as possible to each other and also along connections. The maximum joint width is limited to 4mm.

Laying of broken blocks is not allowed except along connections. The maximum length of a purpose broken block is 100mm. Breaking of the blocks shall be done with a block “block splitter”.

Fine angular sand as per specification shall be brushed into the joints, thereafter compaction shall be done with a vibrating plate compactor on clean surface. After compaction again fine angular sand shall be brushed into the joints.

A well as before as after the compacting the maximum tolerance in profile under a lineal with a length of 3m shall be within + or – 5mm.

18. ALUMINIUM DOORS, WINDOWS, and VENTILATORS ETC.

GLAZING SPECIFICATIONS: -

The work in general shall be executed as per the CPWD specifications supplemented by the following:-
The work shall be carried out through an approved firm, who shall furnish all materials, labour, accessories, equipment, tool and plant and incidentals required for providing and installing powder coated Aluminium doors, windows, claddings, louvers and other items as per architectural drawings.
The agency shall be got approved from Engineer in Charge before execution. The architectural drawings of the Department and these specifications cover the major requirements and are for guidance only, required fastenings, accessories, features, and all other items which are not mentioned specifically therein, but are necessary to make a complete installation shall be provided by the Contractor at his cost.

General:-

Aluminium doors, windows etc. shall be of sizes, section as per details as shown in the drawings. The details shown on the drawings indicate generally the sizes of components parts and general standards. These may be varied slightly to suit the standard adopted by the manufacture. Before proceeding with manufacturing, the contractor shall prepare and submit complete manufacturing and installation drawings for approval of the Engineer-in-Charge and no work shall be performed until the approval of these drawings is obtained.

Shop Drawings:-

The contractor shall submit the shop drawings of doors, windows, louver, cladding and other Aluminium work, to the Engineer-in-Charge for his approval. The shop drawing shall show full size and sections of doors, windows etc., thickness of metal (i.e. wall thickness) details of constructions, sub frame/rough ground profile, anchoring details hardware as well as connection of windows, doors and other metal work to adjacent work. Samples of all joints and methods of fastening and joining shall be submitted to the Engineer-in-Charge for approval well in advance of commencing the work.

Samples:-

Samples of doors, windows, louver etc. shall be fabricated, assembled and submitted to Engineer-in-Charge for his approval. They shall be of size types etc. as decided by Engineer- in-Charge. All samples shall be provided at the cost of the contractor.

Sections:-

Aluminium doors and windows shall be fabricated from extruded sections of profiles as detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-Charge. The Aluminium extruded sections shall conform to BIS designation IIE/IIV 9 WP alloy, with chemical composition and mechanical properties, strength and durability. The permissible dimensional tolerance of the extruded sections shall be such as not to impair the proper and smooth function/operation and appearance of doors and windows.

Fabrication:-

Door, windows etc. shall be fabricated to sizes in factory and shall be of section sizes, combinations and details as per architectural drawings. All doors, windows etc. shall have mechanical joints. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joints accessories such as cleats, brackets, etc. shall be of such material as not to cause any bimetallic action. The design of the joints and accessories shall be such that the accessories are fully concealed. The fabrication of door, windows etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring for support and fixing of hardware and other fixtures as approved by the Engineer-in-charge.

Anodizing (This specification is applicable to Aluminium sections anodized wherever mentioned in schedule of quantities.):-

The anodizing shall be done by specialised firm who shall be got approved from the Engineer- in-charge.
The anodizing operation shall be done after cutting the members to requisite sizes before the final assembly. Aluminium sections shall be anodized as per IS: 7118-1973. Anodizing to be as per grade AC 15 and not less than 15 microns thick when measured as per IS 6012, and electro colour with colour fastness rating No. 8 of IS 1888-1882. Colour anodizing would be done only by electro colour process. No visual variation in colour shall be permitted. The bidder shall clearly indicate the shade variation tolerance as measured by standard equipment.
The anodic coating shall be properly sealed by steam or by boiling in deodorized water as per IS 1868 and or IS 6057. Sealing quality shall be tested in accordance with the relevant standards. Nothing extra shall be paid for above.

The contractor shall satisfy himself by 100% checking in the factory that the thickness of the anodic coating is found to be minimum 15 microns and sealing quality appropriate everywhere. The testing shall be done by EDDY CURRENT METHOD as per IS 6012 for thickness. If any material is found substandard, this shall be totally rejected. Requisite tests shall also be required to be carried out at site as instructed by the Engineer-in-Charge and the contractor shall arrange all the equipment required for these tests at site. Nothing extra shall be paid for above.

All anodized Aluminium works shall conform to relevant IS standards relating to materials, workmanship, fabrications, finishing, erection, installation etc. In this connection IS codes including IS 1868-1982, IS 1948-1961, IS 7118-1973, 6012-1970,
IS 740-1975 are considered relevant and applicable.
A thick layer of clear transparent lacquer based on methacrylate or cellulose saturate shall be applied on the anodized sections, before they are brought at site. The lacquer shall be removed after installations are complete or as an alternative, the exposed surface of the Aluminium sections shall be provided with gummed paper tape protective. After fixing and assuring of proper functioning of doors, windows etc. such protective layer shall be cleaned out/removed. Nothing extra shall be paid for above.

Required No. of tests as per relevant I.S. Codes shall be carried out.

Protection of Finish:-

All Aluminium members shall be wrapped with approved self adhesive non-staining PVC tapes before they are brought to site. All care shall be taken to ensure surface protection during transportation, storage at site and installation. The tape protection shall be removed as installation.

Handling and Stacking:-

Fabricated material shall be protected against any damage during transportation. Loading and unloading shall be carried out with utmost care. On receipt of materials at site, they shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged pieces, parts Materials found to be acceptable on inspection shall be repacked in crates and stored safely.

In the case of composite windows and doors, different units are to be assembled first. The assembled composite units should be checked for line, level and plumb before final fixing is done. Units may be assembled at their final location as situation warrants.

The contractor shall be responsible for assembling composite, bedding and filling the groove with polysulphide sealant inside and outside, at transoms and mullions, placing the doors, windows etc. in their respective opening. After the door/windows have been fixed in their correct assigned position, the open hollow sections abutting masonry concrete shall be filled up with approved polysulphide densely packed and finished neat.
The contractor shall be responsible for doors, windows etc. being set straight, plumb, level and for their satisfactory operation after fixing is complete.

Installation:-

Just prior to installation, the doors, windows etc. shall be uncrated and stacked on edge on level bearers and supported evenly. The frame shall be fixed into position with hard wood backing, true to line and level using adequate number of expansion machine bolts, anchor fasteners of approved size and manufacture and in an approved manner. The holes in concrete/masonry members for housing anchor bolts shall be drilled with an electric drilling machine.

The door/windows assembled as shown on drawings shall be placed in correct final position in the opening and marks made on concrete members at jambs, sills and heads against the holes/provided in frames for anchoring. The frame shall then be removed from the opening and laid aside. Neat holes with parallel sides of appropriate size shall then be drilled in the concrete members with an electric drilling machine at the marking to house the expansion bolts. The expansion bolt shall then be inserted in the holes, struck with a light hammer till the nut is forced into the anchor shell. The frame shall then be placed in final position in the opening and anchored to the support through cadmium plated machine screws of required size threaded to expansion bolts. The frame shall be set in the opening by using wooden wedges at supports and be plumbed in position. The wedges shall invariably be placed at the meeting points of glazing bars and frame.

Fittings:

Hinges, stays, handles, tower bolts, locks and other fittings shall be stainless steel fittings conforming to the required specifications.

EPDM Gaskets:

Contractor shall provide and install EPDM gaskets of approved size and profile at all locations as shown and as required to render the doors windows completely air tight and weather tight. The samples of EPDM gaskets/neoprene gaskets shall be got approved from Engineer in Charge before procurement.

Mastic Cement:

The gaps between frames and supports and also any gaps in the door and windows section shall be raked out as directed and filled with mastic cement of approved colour and make to ensure complete water tightness. The mastic cement shall be of such colour and composition that it would not stain the masonry/concrete work, shall received paint without bleeding, will not sag or run and shall not set hard or dry out under any conditions of weather.
The various tests on Aluminium sections shall be conducted in accordance with the CPWD specification and the relevant IS Codes. The testing charges shall be governed be clause 15.0 of special conditions.

Acceptance Criteria

The Aluminium sections shall conform to the provisions of relevant items of work of the schedule of quantities. Measurement: Measurements shall be as per CPWD specifications payment by weight shall be made for Aluminium sections including beading only. All fixing angles, fittings and fixtures such as handles etc. shall not be included in the weight to be paid. For payment purposes only actual weight of sections shall be taken into account. If however the sectional weight of any Aluminium section is higher than the permissible variation then the weight payable shall be restricted to the weight of section including permissible variation.

Rates:

The rates of item shall include the cost of materials, labour required in all the above operations. The rates shall include the cost of hinges but shall exclude cost of fixing angles and fittings.

Powder coating on Aluminium sections & fittings/fixtures

Wherever specified the Aluminium sections and fittings/fixture shall be coated in approved colour and shade with pure polyester powder of Berger/Interpon/Hardcastle/Nerocoat or equivalent to a minimum thickness of 50 microns.

The pure polyester powder coating shall be got executed from specialized agency. The contractor shall submit names of at least three specialized agencies with details of their experience, capability etc. to the Engineer-in-Charge who after satisfying himself shall givethe approval in writing. The work shall start only after approval of specialized agency.

The pure polyester powder shall have following properties: -Free Flow-ability – Satisfactory

Particle size	:	< 100 microns suitable for Electrostatic spray.
Specific gravity	:	1.1 to 1.5 depending on the colour.
Shelf life	:	6 months.
Stoving Schedule	:	200^0 C for 10 mins. (Metal temp.)

Test Certificates from approved laboratory for the representative Samples shall be submitted by the Contractor.

The curing schedule shall be as specified by the manufacturer of pure polyester powder.

The properties of cured powder films shall be:-

Scratch hardness	:	Equal to or more than 4 Kg.
Impact resistance	:	Min 150 Kg cm
Pencil hardness	:	3H to 4H
Salt spray resistance	:	500 Hrs.
Water soaks at room	:	No change after 500 Hrs.temperature
Detergent resistance	:	No attack after 500 Hrs.

Cross Hatch adhesion : GT = O (ASTM D-

3359) Cured Film thickness : Min 75 microns.

Tests for properties of cured film as given in 4 above shall be Carried out at frequency specified in relevant BIS/BS/ASTM Codes. The surface of Aluminium shall be prepared and pretreated as follows before powder coating:-Removal of all foreign matter. Chromatisation of Aluminium surface as specified by the manufacturer of pure polyester powder by at least a five stage process consisting of alkali degrease, rinse and chromate conversion followed by two rinses. The chromate coating and alkali degrease shall be as per requirement of the pure polyester powder manufacturer

Proper curing at required temperature shall be done for specified time period so as to achieve the desired properties.

The pure polyester coated surface shall be of uniform texture, colour, gloss and shall be free from cracks, warps and other imperfections.

GUARANTEE BOND for Aluminium / UPVC Works:

Two years for aluminium work & Ten years for UPVC guarantee bond in prescribed proforma attached herewith shall be submitted by the contractor which shall be signed by both the specialized agency and the contractor to meet their liability/ liabilities under the guarantee bond. However, the sole responsibility about the structural stability & aesthetics etc. shall rest with the building contractor.

Two years for Aluminium Doors, windows and ventilators, & ten years for UPVC Doors , windows and ventilators in prescribed proforma attached herewith shall be submitted by the contractor which shall be signed by both the specialized agency and the contractor to meet their liability/ liabilities under the guarantee bond. However, the sole responsibility about the structural stability & aesthetics etc. shall rest with the building contractor.

5.00% (Five percent) of the cost of the UPVC work **5.00% (Five percent)** of the cost of the UPVC work shall be retained as security deposit and the amount so withheld would be released after two years to be reckoned from the date after the maintenance period prescribed in the contract is over., if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the samewill be got done from another agency at the risk and cost of contractor.
The security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in this document.

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-

1..... 2.....

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C) Pdy-II

GUARANTEE TO BE EXECUTED BY THE CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF ALUMINIUM / UPVC DOORS, WINDOWS, VENTILATIONS WORK.

The agreement made this……day of …… Two Thousand ……. between ……..Son of …….. (Hereinafter called the GUARANTOR of the one part) and the President of India (hereinafter called the 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 work in the said contract recited structurally stable, leak proof and sound material, workmanship, anodizing, colouring, sealing.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, defective anodizing, colouring and finishing for **two years for Aluminium Doors, windows and ventilators, & ten years for UPVC Doors, windows and ventilators** from the date after the maintenance period prescribed in the contract.

NOW, THE GUARANTOR hereby guarantees that the work executed by him will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, defective anodizing and colouring for the minimum life of two years to be reckoned from the date after the maintenance period prescribed in the contract.

The decision of the Engineer in Charge with regard to cause of defect shall be final.

During this period of guarantee, the guarantor shall make good all defects 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 the guarantor fails to make good all the defects and 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 WHERE OF these presents have been executed by the obligator…… and by ……..……. for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of :

1. ..... 2.....

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY in presence of

1……. 2…….

GUARANTEE BOND FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF PAINTING WORKS.

This Agreement made on ……. between **M/s.** (hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the GOVERNMENT of the other part).

WHEREAS THIS agreement is supplementary to contract (herein after called the contract) date **……** 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 exterior painting on the buildings and structures in the said contract recited completely free from defects of any type like peeling off, unevenness in shade, fading of shade, algae / fungus development etc.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said painting work will remain without any defect for four years from the date of applying of acrylic exterior paint.

NOW THE GUARANTOR hereby guarantees that exterior acrylic/ weather proof paint given by him will render the structures completely without any defect and the minimum life of such paint shall be **five years** to be reckoned from the date after the maintenance period prescribed in the contract.

During this period of the guarantee, the guarantor shall make good all defects and in case of any defect being found, render the building exterior paint finish restored 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 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 the GUARANTOR fails to executed rectification of defects / or restoring of quality OR commits breach thereunder then the GUARANTOR will indemnify the principal and his successors against all loss, damages, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance 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 Obligator__AND BY The Executive Engineer (Puducherry),CPWD, Puducherry 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 –

1.

2.

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C) Pdy-II

Guarantee to Be Executed by Contractor for Removal of Defects After Completion of Work in Respect of Water Proofing Works

This agreement made this _____day of _____two thousand _and between__ _____(Name of the contractor, hereinafter call Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called the 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 where by the Contractor inter alia, undertook to render the buildings and structures in the said contract recited completely water and leak proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water/ leak proof for ten years from the date of completion of work.

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 completion of work.

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

a) Misuse of roof shall mean by operation, which will damage roofing 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 roof or construction adjoining to existing roof, where by roofing 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 defects being found, render the building water proof at his own cost, to the satisfaction of the Engineer in charge 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 Department through 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 necessary rectification 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 reasons of any default on the part of 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 WHERE OF these presents has been executed by the Obligator

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:

1.

2.

(Guarantee to be signed and delivered on a Non-Judicial stamp paper worth not less than Rs.200/-)

19. SPECIAL CONDITIONS FOR WORKS IN VCRC Campus, Puducherry

1. The contractor shall not carry out any work in any building without the permission of Engineer-in-charge or his authorized representatives.
2. The contractor shall have to strictly adhere to restrictions and rules formulated by the CPWD from time to time. Failing which he shall be wholly responsible for any inconvenience caused to CPWD.
3. No claim for idle labour on any account shall be entertained.
4. Any work carried out without the approval of the representative of the Engineer-in-charge at the site of work shall be rejected and shall not be measured and paid for.
5. The site for the collection and stacking of the material shall be got approved from the Engineer-in-charge.
6. All doors, windows, floors, furniture, Electrical and other fittings shall be cleaned from all splashes, dust, dirt and mortars etc. The rate for the whitewashing/colour washing / distempering / painting etc. includes the cost of removal splashes and paint marks. In the event of failure on the part of the contractor to remove the splashes and the paint mark the recoveries will be made.
7. **1% water charges will be deducted from the gross amount of each Running A/c Bill and Final Bill of the contractor if used source from Campus.**
8. **Electricity shall be arranged by the contractor at his own cost.**
9. The malba /garbage generated at site or anywhere in the campus due to construction activities shall be removed from the site immediately & shall be disposed off by the contractor to the approved dumping site outside the campus. The dumping site shall be identified by the contractor and shall be approved by the Engineer-in-charge. The contractor shall do proper segregation of debris and good earth before disposing debris at his own cost. **The contractor shall be liable to pay fine of Rs 1000/- if any complaint is received from client side due to debris/construction materials lying on road or improperly at site.**
10. The surplus soil/earth so segregated shall be disposed of as per the directions of Engineer-in-charge separately.
11. The contractor shall clean the site thoroughly of scaffolding materials, rubbish, equipment left out of his work and dress the site around the building to the complete satisfaction of the Engineer-in-charge before the work is treated as completed.
12. The contractor shall provide his mobile number or the mobile number of his representative to the Engineer-in-Charge for ease of communication with the controlling staff.
13. Any cutting /Dismantling of road shall be carried out by marking and cutting the road using power cutting machine to the required size and then dismantling the road of the marked portion with the prior approval Engineer-in-charge.

20. LIST OF PREFERRED MAKES (BRANDS) OF MATERIALS AND NAMES OF SPECIALIZED AGENCIES

1) Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials of this bid document and also brands approved by the Superintending Engineer(Puducherry), CPWD from time to time

2) List of Preferred Makes (Brands) of materials and names of specialized agencies is attached for usage in execution of work. However, approved equivalent material of any other specialized companies/ firms may also be used, in case it is established that the Brands specified are not readily available in the market or in other unavoidable circumstances subject to approval of alternate Brand by the Superintending Engineer (Puducherry).

3) It must be ensured, in general, that all materials to be used in the works shall bear BIS Certification mark. In cases where for a particular material/ product, BIS Certification Mark is not available, then the material proposed to be procured can be used subject to the conditions that it should conform to CPWD Specifications and relevant BIS codes. In such cases written approval of the NIT approving authority (The Superintending Engineer (Puducherry) or his successor therof.) shall be obtained before use of such material in their works.

4) The list given below does not absolve the Executing Agency from their responsibility for using these products. It is only after, they have satisfied about the quality and performance, the products shall be used. To achieve this, proper check on the quality of the products, actually to be used, should be exercised.

5) The contractor shall obtain prior approval from the Engineer in charge before placing order for any specific material or engaging any of the specialized agencies. The contractor shall make a detailed submittal as per the contract with catalogues and proposed specifications (duly highlighting relevant matter). In case of specialized agencies, they will also submit full details of the works executed by the specialized agencies.

6) In case any make included in the preferred makes (brands) list is found to be below the standards of quality and specifications and/ or is deficient in any other manner, that make shall be considered as deleted by the Engineer in charge from the list.

7) Public procurement (Preference to Make in India) Order (PPP-MIII)-2017 - Revision dated 29.05.2019 and DoT Public Procurement (Preference to Make in India) Order (PPP-MII Order) dated 29.08.2018 with upto date amendments/ latest order till the last date of receipt of tender will prevail and shall be complied with.

8) The contractor will submit relevant documents to enable the Engineer in charge to verify that manufacturers have valid IS Certification as on date for materials, wherever applicable.

9) In case, make for any material to be used in work is not specified in the list, the Superintending Engineer (Puducherry) may approve the make based on the samples submitted by the agency, subject to fulfillment of IS/any other codal provisions.

10) The decision of Engineer in charge in case of any discrepancy shall be final and binding on all above points.

11) It must be ensured, in general, that all materials used in the works bear a valid BIS Certification mark. If a valid BIS Certification mark is not available for a particular material or product, then the proposed material can be used provided it conforms to CPWD specifications and relevant BIS codes. In such cases, written approval from the Superintending Engineer (Puducherry) shall be obtained before using such materials in their works.

12) The list provided below does not absolve the executing agency from their responsibility for using these products. The products shall only be used after the executing agency is satisfied with their quality and performance. To achieve this, a proper quality check on the product to be used should be exercised.

13) The agency shall arrange for factory visit of materials to be used in the execution of work, to inspect the quality assurance and quality control being maintained at factory during manufacturing process and to ensure the compliance of mandatory provision of Indian Standards/ Manufacture specification. A team headed by The Superintending Engineer (Puducherry) along with EE-in-C and their representatives, as decided by the NIT approving authority shall carry out the inspection cum factory visit from time to time during the execution of work.

Sl. No.	**Materials**	**Preferred Make**
1)	WHITE CEMENT	J.K. WHITE, BIRLA WHITE, ASIAN PAINTS, ULTRATECH
2)	ORDINARY PORTLAND CEMENT (43) GRADE	ACC, ULTRA TECH, COROMANDAL, CHETTINADU, DALMIA, & ZUARI.
3)	DAMP PROOF MATERIAL	ARDEX ENDURA, FOSROC, DR FIXIT (PIDILITE), SIKA & BASF.
4)	CHEMICAL ADMIXTURES	ARDEX ENDURA, FOSROC, SIKA, BASF, PIDILITE
5)	EXPANSION JOINT BOARD	SUPREME INDUSTRIES, DURAFILL, STP LTD
6)	INJECTION GROUTING	ARDEX ENDURA, FOSROC, SIKA, BASF, PIDILITE

Sl. No.	Materials	Preferred Make
7)	READY MIX CONCRETE	ULTRATECH, LAFARGE, ACC, RMC INDIA
8)	STEELWORK / TMT BARS	TATA, TISCO, VIZAG, JSW
9)	AAC BLOCKS	XTRALITE FROM ULTRATECH, AEROCON FROM HIL & NCL.
10)	CC BLOCKS / FLYASH BLOCKS	SIPOREX, SUNVIK, HIL, PRAGATHI, ULTRATECH
11)	FRP DOOR FRAME	MEENA, RAWJI, FIBERTECH, ASTRALWIN DOORS
12)	FRP DOOR SHUTTERS	MEENA, RAWJI, FIBERTECH, ASTRALWIN DOORS
13)	PVC DOOR SHUTTER AND DRAME	SINTEX, DURO PLAST & QUTE & RAJSHRI
14)	WOODEN FLUSH DOORS	KITPLY, CENTURY, GREENPLY, ARCHID PLY
15)	WATERPROOF PLY	KITPLY, CENTURY, ARCHID PLY GREENPLY
16)	COMMERCIAL PLY	KITPLY, CENTURY, ARCHID PLY, GREENPLY
17)	LAMINATE	CENTURY, ROYAL TOUCH, GREENLAM, MERINO, ARCHID LAM
18)	HIGHPRESSURE LAMINATES	MERINO, GREENLAM, CENTURY, TESA, ARCHID
19)	PRELAMINATED PARTICLE BOARD (MDF/HDF/HD HMR)	GREENPLY, TESA, PERGO, CENTURY
20)	NATURAL WOOD VENEER	ARCHID, DURAIN, KITPLY, NATIONAL ACTION TESA
21)	GYPSUM BOARD	SAINT GOBAIN, BORAL BOARD, ARMSTRONG & ANUTONE

Sl. No.	Materials	Preferred Make
22)	DOOR HARDWARE	DORMA, HAFELE, GODREJ, GEZE
23)	HYDRAULIC DOOR CLOSERS/ FLOOR SPRINGS	DORMA, HAFELE, GODREJ, OZONE
24)	LOCKS/ LATCHES	DORMA, HAFELE, GODREJ, GEZE
25)	METTALIC FIRE RATED DOOR	BANGALORE PROTECH, KENWOOD, VEROTECH, AHLADA ENGINEERS LTD, SHAKTHI HORMANN, M/s. PACIFIC FIRE CONTROLS PRIVATE LIMITED
26)	FIRE RATED HARDWARE	DORMA, GEZE, DORSET, GARG, BACKERS FS
27)	STAINLESS STEEL SCREWS FOR FABRICATION AND FIXING OF WINDOWS	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
28)	BUTT/ BALL BEARING HINGES	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
29)	PIANO HINGES	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
30)	NUTS BOLTS/ SCREWS	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
31)	ACOUSTIC INSULATION	ANUTONE, LLOYD INSULATION, SAINT GOBAIN, ARMSTRONG
32)	GLASS/ REFLECTIVE GLASS	MODI FLOAT, SAINT GOBAIN, ASAHI
33)	UPVC WINDOWS/ VENTILATION	FENESTA, QUTE, SIMTA ASTRIX, YASHPOLY, NCL VEKA, RAJSHRI
34)	SOURCE FOR TEMPERING REFL. GLASS/ CLEAR	FUSO, SAINTGOBAIN, GURIND, IMPACT SAFETY
35)	FIRE RATED GLASS	PYOSWISS OF SAINT GOBAIN, PYRAN OF SCHOTT, PILKINGTON, M/s. AIS CONSUMER GLASS SOLUTIONS (AIS PYROBEL-T)

Sl. No.	Materials	Preferred Make
36)	FALSE FLOOR	HEWETSON, UNIFLOOR, UNITILE, KEBAO
37)	ENGINEERED WOOD/ LAMINATE FLOORING	ARMSTRONG, PERGO, ACTION TESA, WELSPUN
38)	MIRROR GLASS	MODIGUARD, SAINT GOBAIN, ASAHI, ATUL
39)	STAINLESS STEEL FITTINGS	DORSET, DORMA, GEZE, HETTICH, HAFFLE
40)	ACOUSTIC PANELS FOR WALL PANELING	ARMSTRONG, ANUTONE, SAINT- GOBAIN
41)	STRUCTURAL STEEL	SAIL, TISCO, VIZAG, JSW
42)	MS PIPES	SAIL, TISCO, VIZAG, JSW
43)	WELDING ROD	ADVANI, ESAB
44)	METAL DECK SHEET	TATA, JINDAL, SAIL
45)	SHEAR STUD/ CONNECTOR	KOCO, STUD CRAFT, L&J TECHNOLOGIES, ARS INFRA SOLUTIONS
46)	CLAMP. REBAR, CHEMICAL FASTENER	HILTI, FISCHER, WURTH, AXEL
47)	ANCHOR FASTENERS/ BOLTS	HILTI, FISHER, CANON, BOSCH, AXEL, WURTH
48)	DASH FASTENERS	HILTI, FISHER, CANON, BOSCH, AXEL, WURTH
49)	STAINLESS STEEL BOLTS, WASHERS AND NUTS	ATUL/ HILTI/ GRIPWELL/ NAKODA, WURTH
50)	STAINLESS STEEL (SS 304 & 316)	SALEM, JINDAL, SAIL
51)	VITRIFIED TILES	KAJARIA, JOHNSON, RAK CERAMICS, SOMANY

Sl. No.	Materials	Preferred Make
52)	GLAZED CERAMIC TILES	JOHNSON, SOMANY, KAJARIA, RAK CERAMICS
53)	CEMENT CONCRETE PARKING TILES	NITCO, HINDUSTAN, EUROCON, DAZZLE ULTRA
54)	INTERLOCKING CONCRETE BLOCKS	NITCO - (ROCKARD), BHARAT - (NILSAN) REGENCY
55)	CLAY TILES ON ROOF	KENJAI, JOHNSON, COMMONWEALTH TRUST (IND) LTD
56)	TILE ADHESIVE	ARDEX ENDURA, PIDILITE, PERROUS, FOSROC, SIKA, MYK ARMENT
57)	CHEQUERED TERRAZO TILES	NITCO, JOHNSON, SOMANY, KAJARIA
58)	SYNTHETIC CARPET TILES	TOLI, HOLLITEX, STANDARD CARPETS, WELSPUN
59)	GLASS MOSAIC TILES	ITALIA, PALLADIO, BISAZZA, CORAL
60)	FALSE CEILING CALCIUM SILICATE	ARMSTRONG, AEROLITE, RAMCO, USGKNAUF
61)	FALSE CEILING MINERAL FIBRE	SAINT GOBAIN, ARMSTRONG, ANUTONE, AEROLITE
62)	FALSE CEILING MEMBERS (PER IMETER, CEILING SECTION,ERMEDIATES, ANGLES ETC.)	ARMSTRONG, GYP. ROCK (SAINT GOBAIN), ANUTONE, AEROLITE
63)	MASKING TAPES	3M, SUNCONTROL, WONDER POLYMER, ROOP
64)	SANDWICH PU PANELLED ROOFING SHEETS	LLOYD INSULATION (INDIA) LTD., JINDAL, MECTEC PVT LTD., TATA
65)	GALVALUME SHEET	LLOYD (INDIA) LTD., JSW, TATA BLUESCOPE
66)	MELAMINE POLISH	ASIAN PAINTS, MALAMYNE GOLD WUDFIN OF PIDILITE INDUSTRIES TIMBERTONE OF ICI DULUX, NIPPON

Sl. No.	Materials	Preferred Make
67)	PAINT/ PRIMER/ OIL BOUND DISTEMPER ACRYLIC PAINT	ASIANPAINTS, NEROLAC, BERGER, NIPPON PAINTS
68)	WATER PROOF CEMENT PAINT	SNOW CEMINDIALTD, ASIAN PAINTS, NIPPON PAINTS
69)	SYNTHETIC ENAMEL PAINT	BERGER, NEROLAC, ASIAN, NIPPON
70)	ACRYLIC TEXTURED PLASTER	ASIAN PAINTS, NEROLAC, BERGER, NIPPON
71)	FIRE RETARDANT PAINT	JOTUN, HILTI, AKZONOBEL, NIPPON
72)	ANTI CORROSIVE BITUMASTIC PAINT	ASIAN/ BERGER/ SHALIMAR, NIPPON
73)	EPOXY PAINT	BERGER PAINTS, ASIAN PAINTS, MRF, ARDEX ENDURA, FOSROC, NIPPON
74)	EPOXY COATING	ARDEX ENDURA, BASF, FORSOC, LATICRETE, MRF, ASIAN PAINTS, NIPPON
75)	ACRYLIC EXTERIOR PAINT	ASIANPAINTS, BERGER, NEROLAC, NIPPON PAINTS
76)	BITUMEN	INDIAN OIL, HINDUSTAN PETROLEUM, BHARAT PETROLIUM
77)	VITREOUS WC / WASH BASIN	HINDWARE, KOHLER, GROHE, ROCA, CERA & JAQUAR
78)	GULLY TRAPS	PERFECT, PARRY
79)	STAINLESS STEEL SINKS	NEELKANTH, NIRALI, DIAMOND, HINDWARE, CARYSIL,
80)	C. P. BRASS FITTINGS	JAQUAR, KOHLER, GROHE, ROCA, CERA
81)	GI PIPES	TATA, JINDAL (HISSAR), ZRNITH

Sl. No.	Materials	Preferred Make
82)	GI PIPE FITTINGS	ZOLOTO, UNIK, HB, ICS
83)	RCC PIPES	INDIAN HUME PIPE, MOHAN HUME PIPE, BANGALORE CEMENT PIPES
84)	SPUN CAST IRON COVERS & GRATINGS	NECO, SKF, BENGAL IRON CORPORATION
85)	SPUN CAST IRON PIPES & FITTINGS	NECO, SKF, BENGAL IRON CORPORATION
86)	SOIL,WASTE & VENTPIPES & FITTING (A) HUBLESS CENTRIFUGAL CAST IRON	BIC, NECO, KAPILANSH, HEPCO, SKF
87)	SWR PVC PIPES AND FITTINGS	SUPREME, FINOLEX, PRINCE, ASTRAL
88)	C.I. MANHOLE COVER	NECO, BIC, HEPCO
89)	SFRC COVER AND GRATING	TULSHI CONCRETE, KK, ADVENT, NEW TECH
90)	PLASTIC ENCAPSULATED FOOTREST	KK INDIA, KGM, ACCURATE BUILDCON
91)	CPVC PIPE AND FITTINGS	SUPREME, ASHRIVAD, FINOLEX, PRINCE, ASTRAL
92)	UPVC PIPES	SUPREME, PRINCE, FINOLEX
93)	WATER SUPPLY VALVES	ZOLOTO, LEADER, ARCO
94)	AIR RELEASE VALVES	KIRLOSKAR, RBM, KARTAR
95)	GUN METAL VALVES	ZOLTO, LEADER, SANT, ANDCO INDIA
96)	CI DOUBLE FLANGED SLUICE VALVES	KIRLOSKAR, IVS, BURN, ZOLOTO, LEADER

Sl. No.	Materials	Preferred Make
97)	CI DOUBLE FLANGED NON-RETURN VALVES	KIRLOSKAR, FLUIDTEH, ZOLOTO
98)	POLYSTER POWDER COATED SHADES	NEROLAC, BERGER, AKZONOBEL, ASIAN
99)	STRUCTURAL SILICON/ WEATHER SILICON	DOW CORNING/ WACKER/ GE
100)	ALUMINIUM SYSTEMS/ ANODIZED ALUMINUM FITTINGS FOR DOORS/ WINDOWS	HARDIMA, EVERITE, SIGMA (ISI MARKED) JYOTHI & CLASSIC
101)	ALUMINIUM SECTIONS	JINDAL, HINDALCO, INDALCO
102)	FRICTION STAY HINGES	EBCO, HAFELE, SEVAX
103)	E.P.D.M GASKETS	ANAND/ ROOP/ BOHRA/ HANU/ AMEERUBBER
104)	WATERPROOFING COMPOUND	SIKA, FOSROC PIDILITE, ARDEX ENDURA, MYK ARMENT, M/s. BERGER PAINTS INDIA LIMITED
105)	INTEGRAL CRYSTALLINE ADMIXTURE	KRYTON, PENETRON/ XYPEX, MYK ARMENT
106)	INTEGRAL CRYSTALLINE SLURRY	KRYTON, PENETRON/ XYPEX, MYK ARMENT
107)	FIBRE REINFORCEMENT ELASTO MERIC LIQUID WATER PROOFING MEMBRANE	KRYTON, PENETRON/ XYPEX, ASIAN PAINTS, MYK ARMENT
108)	CHLOROPHYRIPHOS	DURSBANTCT, PREMISE AGENDS, PYRAMID. NOBAN, HILBAN.
109)	MEMBRANE WATER PROOFING SYSTEM	BASF, PIDILITE , FOSROC, ASIAN PAINTS, MYK ARMENT
110)	POLYMER BASED CONTENTIOUS WATER PROOF COATINGS	BASF, PIDILITE , FOSROC, ASIAN PAINTS, MYK ARMENT

Sl. No.	Materials	Preferred Make
111)	ALUMINIUM COMPOSITE PANEL (ACP)	ALUCOBOND, EUROBOND, DURABUILD, ALSTONE
112)	NON METALIC SURFACE HARDNER	FOSROC, SIKA, PIDLITE
113)	EPOXY MORTAR	FOSROC, SIKA, BASF, ULTRATECH, PIDILITE, ASIAN PAINTS
114)	SMOKE SEAL STRIP	WURTH PROMAT/ ASTRO FLAME
115)	WATER STOPS	BASF, HYDROSWELL, PIDILITE, BOSTIK, ASIAN PAINTS
116)	PVC PERFORATED PIPES	REXPOLY EXTRUSION LTD, AKASHE NTERPRISES, ZENPLAS PIPES PVT.LTD
117)	POLY SULPHIDE SEALANT	PIDILITE,CHEMETALL-RAJ, FOSROC, CHOKSEY CHEMICALS, TUFF SEAL, MYK ARMENT
118)	BITUMEN IMPREGNATED BOARD	SHALI TEXOR EQUIVALENT
119)	POLY ETHYLENE BACKERROD	SUPREME IND.LTD.OR EQUIVALENT
120)	GRC JALI	TERRAFIRMA, ECOVISION, BIRLA WHITE GRC, EVEREST GRC
121)	POLY CARBONATE SHEET	DANPALON, ALCOX, POLYGAL, V.A. CORPORATION, ALFA, GE, LEXON, TUFLITE
122)	PT STRANDS	DPWIRES, TATA, USHAMARTIN
123)	WOOD POLYMER COMPOSITE MATERIALS FOR DOOR FRAMES AND SHUTTERS, PLAIN/PRE LAMINATED BOARDS FOR WALL LININGS ETC	RAJSHRI , QUTE, PROMINANCE
124)	GRASS PAVER	UNISTONE, ULTRA

Sl. No.	Materials	Preferred Make
125)	PLYWOOD FOR CONCRETE SHUTTERING WORK	BALAJEE PLY
126)	EPOXY	FOSROC, ARDEX, ASIAN PAINTS
127)	STRUCTURAL SEALANT	FOSROC, BASF, STP LTD
128)	POLY-SULPHIDE SEALANT	BASF, DR FIXIT, PIDILITE
129)	STRUCTURAL GLAZING	MODI, SAINT GOBIN, ASAHI
130)	SPIDER PATCH FITTINGS FOR STRUCTURAL GLAZINGS	DORMA, OZONE, HAFELE
131)	CHEMICAL WATER PROOFING SYSTEM	FOSROC, BASF, DR FIXIT, SIKA
132)	ALUMINIUM FORMWORK	MIVAN, S FORM, MFS
133)	SILICON GASKETS	SREE GAURAV
134)	MASKING TAPES	3M, SUN, ROOP
135)	ADHESIVE (MANUFACTURE SPECS)	ARDEX ENDURA, SIKA, FOSROC, PIDLITE, BOSTIK, MYK ARMENT
136)	GROUTS	KERAKOLL, WEBER, ARDEX ENDURA, BOSTIK, FOSROC, PIDILITE, ASIAN PAINTS, MYK ARMENT
137)	SOLAR STUDS/ MEDIAN MARKERS	3M, AVERY DENNISION, NIKKALITE
138)	POLY CARBONATE CONVEX MIRRORS, RUBBERISED ROAD HUMP	UNIQUE SAFETY SOLUTIONS, LAOWA
139)	AIR TRANSFER GRILLS	COOLGRILLS PUNE, SYSTEM AIR INDIA

Sl. No.	Materials	Preferred Make
140)	THERMAL INSULATION TREATMENT	PIDILITE, BASF, BERGER, ARDEX ENDURA
141)	PEB FABRICATORS	LLOYD INSULLATIONS (INDIA) LTD, M/S KIRBY BUILDING SYSTEM, TATA BLUESCOPE, PEBSPENNAR
142)	CONCEALED TOWER BOLT	DORMA, INGERSOLRAND, DORSET, ALU ALPHA
143)	FLOAT GLASS	SAINT GOBAIN, ASAHI, MODIGUARD
144)	TEMPERED REFLECTIVE/ CLEAR GLASS	SAINT GOBAIN, MODIGUARD, IMPACT SAFETY
145)	STAINLESS STEEL PRESSURE PLATE SCREWS	KUNDAN, POOJA, ATUL
146)	SYNTHETIC SPORTS FLOORING	ARMSTRONG, LG, WONDORFLOOR
147)	LINOLEUM SPORTS FLOORING	ARMSTRONG, FORBO, GERFLOR
148)	FLOOR SPRING (FOR NON DSR ITEMS)	DORMA, INGERSOLRAND, OZONE, GEZE
149)	CEMENT BASED WALL PUTTY	J.K. WALL PUTTY, BIRLA WALL CARE, ASIAN PAINTS, BERGER
150)	READY MIX CEMENT PLASTER	READI PLAST, GYPROC PLASTERS, ULTRA TECH, FERROUS CRETE
151)	FLUSHING CISTERN	PARRYWARE, KOHLER, HINDWARE, JAQUAR
152)	PVC/HDPE WATER STORAGE TANKS	VECTUS, SUPREME
153)	WATER SUPPLY FIXTURES LIKE BIBCOCK, SHOWER PANELS,	JAQUAR , PARRYWARE, JHONSON, HINDWARE
154)	ROCK WOOL/GLASSWOOL, INSULATION	TWIGAFIBER, LLYOD INSULATION, SUPEREME

Sl. No.	Materials	Preferred Make
155)	SENSOR BASED AUTO FLUSH SYSTEM	AOS SYTEM, TOTO, PARRYWARE, KOHLER HINDWARE, GROHE, JAQUAR, KOCHIER
156)	FLOAT VALVE (BALL VALVE)	PRAYAG, LEADER, ZOLOTO, IBP, ARCO
157)	MULTI CELL POLYCARBONATE ROOFING SHEETS	DANPALON, LEXAN GE
158)	PU COATING (UV RESISTANT LIQUID APPLIED COATING)	SMART CARE, PIDILITE , BASF, FOSROC, SIKA PUROOFKOAT
159)	ACRYLIC EXTERIOR TEXTURES	ASIAN PAINTS, BERGER, NEROLOC
160)	GRP/SMC PANEL TANK	PIPECO TANKS, FLOSTO TANKS, VIVANTA, AMITEX

Executive Engineer (C) Puducherry-II,
CPWD, Puducherry.

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C) Pdy-II

PART C

Schedule of Work

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C), PDY-II

21. SCHEDULE OF QUANTITIES (CIVIL)

Name of Work: **Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.**

Sl.No	DSR 2023	Description	Qty	Unit	Rate	Amount
1	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 5.0 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
1.1	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	20.00	cum	9746.10	194922
2	9.48	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.				
2.1	9.48.2	Fixed to openings /wooden frames with rawl plugs screws etc.	4770.00	kg	255.11	1216875
3	9.147A	Providing and fixing factory made uPVC glazed/wire mesh windows/doors comprising of lead free uPVC multi-chambered frame, sash and mullion/coupler (where ever required) extruded profiles having minimum wall thickness of 1.70 mm for Series R1 and R2 profiles and 2.10 mm for Series R3 and R4 profiles conforming to EN: 12608 in any shape, colour and design duly reinforced with galvanized mild steel section made of required shape & size as per CPWD Specification, uPVC extruded glazing beads, interlocks and Inline sash adaptor (where ever required) of appropriate dimension, EPDM gasket, hardware, SS 304 grade fasteners of minimum 8 mm dia with countersunk head, comprising of matching polyamide PA6 grade sleeve for fixing frame to finished wall as per IS 1367 : Part 1 to 14, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame, sash & mullion (if required) shall be mitred cut and fusion welded/mechanically jointed duly sealed at all corners,				

		including drilling of holes for fixing hardware and drainage of water etc.				
3.1	9.147.E5	Casement cum fixed panel window having single casement panel at both ends & middle fixed panel with S.S 304 friction hinges as per size and weight of sash, multi-point locking system, zinc alloy (zamak) powder coated handles.				
3.1.1	9.147.E5.2	Using R3 series with frame (55mm & above) x (45mm & above) & sash (55mm & above) x (65mm & above) & mullion (55mm & above) x (65mm & above). (Height upto 1.8 metre; each openable shutter upto 0.8m width)	225.00	sqm	10757.80	2420505
3.2	9.147.C2	Fixed window / ventilator with mullion / transom.				
3.2.1	9.147.C2.2	Using R2 series with frame (39mm & above) x (39mm & above) & mullion (39mm & above) x (60mm & above). (Height upto 1.2 meter)	15.00	sqm	9381.61	140724
4	13.1	12 mm cement plaster of mix :				
4.1	13.1.2	1:6 (1 cement: 6 fine sand)	135.00	sqm	356.78	48165
5	13.2	15 mm cement plaster on the rough side of single or half brick wall of mix :				
5.1	13.2.2	1:6 (1 cement: 6 fine sand)	170.00	sqm	409.92	69686
6	13.61	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
6.1	13.61.1	Two or more coats on new work.	240.00	sqm	166.86	40046
7	13.80	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.	305.00	sqm	167.02	50941
8	13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre. of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
8.1	13.83.2	Two coats.	500.00	sqm	152.84	76420

9	13.85	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				
9.1	13.85.3	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre.	305.00	sqm	79.15	24141
10	15.12	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
10.1	15.12.1	Of area 3 sq. metres and below	30.00	each	393.01	11790
10.2	15.12.2	Of area beyond 3 sq. metres	65.00	each	538.09	34976
11	21.3 (modified)	Providing and fixing glazing in UPVC door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge .				
11.1	21.3.1	With float glass panes of 4.0 mm thickness (weight not less than 10 kg/sqm)	205.00	sqm	1259.53	258204
12	LMR	Taking back into contractor's account, the dismantled steel window shutters with frame & Grill if any by giving credit to the Government.	3000	kg	-37.00	-111000
13	LMR	Taking back into contractor's account, the dismantled Aluminium shutters with frame if any by giving credit to the Government.	120	each	-150.00	-18000
					TOTAL Rs.	**44,58,395.00**

Executive Engineer (C) Puducherry-II,
CPWD, Puducherry.

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C), PDY-II

22. MAIN ABSTRACT

Name of Work: Replacement of Old windows with New UPVC windows in the rooms & laboratories of VCRC main building at ICMR-VCRC, Puducherry.

Name of the Contractor					
Sl. No.	Name of component	Estimated cost	Percentage above or below the estimated cost	% in Figures	Total Cost
1	2	3	4	5	6
1	Civil	Rs. 44,58,395/-	At Par		Rs. 44,58,395/-
	Grand Total	Rs. 44,58,395/-			Rs. 44,58,395/-

IMPORTANT NOTE :

1. The Estimated Cost Put to Tender has been worked out by taking DSR 2023 Civil component Items into consideration there by enhanced for included Cost index of 10% for Puducherry and Considering the Non schedule items as LMR based on Market Rates for LMR items. ~~For Electrical component, DSR 2025 E&M & AOR into and Considering the Non schedule items as LMR based on Market Rates for LMR items.~~
2. The Column Nos 4 & 5 are mandatory to be filled by the bidders/ tenderers. If all these columns are left blank, the tender become invalid
3. The bidder is required to quote the p ercentage only above or below or at par with the estimated cost to cover all the rates of item.
4. If the percentage selection in column No 4 is "At Par", by default the percentage will be considered as "Zero" only. In other words if "At par" is selected in column No.4, then no need to fill column No.5.
5. The Percentage shall be typed only in figures upto 2 (two) places of decimal.
6. 1% of total work done shall be recovered as Water charges & 1% for Labour Cess from each bill and final bill. The rates in the schedule are inclusive of Water & Labour Welfare Cess charges. The bidder is required to quote the rate accordingly.

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

Executive Engineer (C) Puducherry-II,
CPWD, Puducherry.

CORRECTION ----NIL---- INSERTION ----NIL----
CUTTING ----NIL---- OVERWRITING ---NIL---- EE(C), PDY-II