



भारत सरकार
GOVERNMENT OF INDIA
केंद्रीय लोक निर्माण विभाग
CENTRAL PUBLIC WORKS DEPARTMENT
कार्यालय कार्यपालक अभियंता, गुवाहाटी मंडल
OFFICE OF THE EXECUTIVE ENGINEER,
GUWAHATI DIVISION,
गुवाहाटी – ७८१०२१
GUWAHATI – 781021



e-NIT
ई-निविदा आमंत्रण सूचना
e-NIT No. : 05/NIT/CE/GHY/2026-27

Name of work : “Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam).”

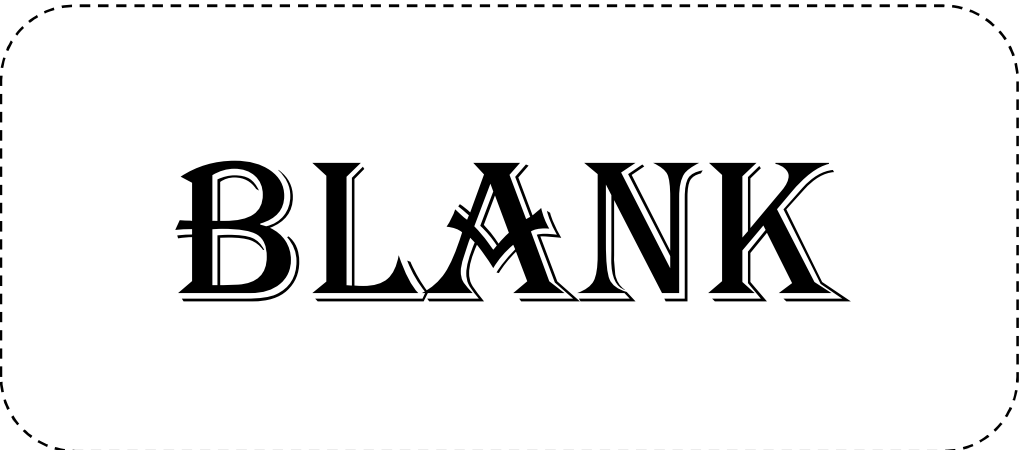
Estimated Cost : Rs. 9,01,09,735.00
Civil Component : Rs. 7,79,57,908.00
Electrical Component : Rs. 1,21,51,827.00
Duration : 18 (Eighteen) Months.

Chief Estimator (E)	Assistant Engineer (E)	Assistant Engineer (C)	Executive Engineer (P)
O/o the CE, Guwahati	O/o the CE, Guwahati	O/o the CE, Guwahati	O/o the CE, Guwahati
CPWD, Guwahati – 35	CPWD, Guwahati – 35	CPWD, Guwahati – 35	CPWD, Guwahati – 35

Issued by

CHIEF ENGINEER, GUWAHATI
CENTRAL PUBLIC WORKS DEPARTMENT
GARCHUK, GUWAHATI – 781035

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)



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NIT NO. :- 05 /NIT/CE/GHY/2026-27

Name of Work :- **“Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam).”**

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Certified that the Percentage bid document contains pages contains **1 to 251 pages**, in chronological order

This N.I.T. is approved for **Rs.9,01,09,735.00 (Rupees Nine Crores One Lakhs Nine Thousands Seven Hundred Thirty Five) only.**

.....
This tender is uplodged on CPWD website CPWD eTendering (<https://etender.cpwd.gov.in>) **NEW**

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

PART - A

CPWD-6 FOR e-TENDERING

1. ~~Item rate/percentage rate bids are invited by Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021 on behalf of President of India from approved and eligible contractors of CPWD (B&R) and those of appropriate list of M.E.S., BSNL, Railway and..... State P.W.D. (B&R) or State Govt.'s Department (strike out as the case may be) dealing with building and roads, if there is no State PWD (B&R) for the Work of "Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."~~

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.9,01,09,735.00** (Civil Rs.7,79,57,908.00+ Electrical Rs.1,21,51,827.00). This estimate, however, is given merely as a rough guide.

- 1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids. For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

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

- ~~1.2.1 Conditions for Non-CPWD registered contractors only, if bids are also open to non-CPWD Contractors.~~

~~For works estimated cost upto tendering limit of class-I Buildings & Roads (erstwhile Composite/ Building/ infrastructure) category Contractor (However, for Horticulture category, it may be modified as per bidding limit of CPWD class I contractors of Horticulture category).~~

- ~~(i) Three similar works each of value not less than Rs..... or two similar works each of value not less than Rs..... or one similar work of value not less than Rs..... (all figures rounded to nearest convenient figure) during the last 7 years ending last day of the month previous to the one in which tenders are invited.~~

- ~~(ii) For EPC tender under Mode-I/II only (Applicable for CPWD enlisted contractors of appropriate class also).~~

~~One completed work costing not less than Rs. executed with the structural system technology as proposed by bidder in the letter of transmittal during the last 7 years ending last day of the month previous to the one in which tenders are invited. This work can be part of eligible work at 1.2.1 (i) above or as a separate work.~~

Note: ~~For works costing above tendering limit of class-II Buildings & Roads (erstwhile Composite/ Building/ infrastructure) category contractors but upto tendering limit of Class-I Buildings & Roads (erstwhile Composite/ Building/ infrastructure) category Contractor (However, for Horticulture category, it may be modified as per bidding limit of CPWD class II and CPWD~~

~~Class I contractors respectively of Horticulture Category) when bids are open to non-CPWD contractors also, then class II contractors of CPWD registered shall also be eligible if they satisfy the eligibility criteria specified in 1.2.1 above.~~

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

~~For works estimated to cost above the tendering limit of class I (Super) Buildings & Roads (erstwhile Composite/ Building/ infrastructure) category Contractor (However for Horticulture category, it may be modified as per bidding limit of CPWD class I contractors of Horticulture Category).~~

- ~~(i) Three similar works each of value not less than Rs..... or two similar works each of value not less than Rs.....or one similar work of value not less than Rs.....(all figures rounded to nearest convenient figure) during the last 7 years ending last day of the month previous to the one in which tenders are invited.~~
- ~~(ii) For EPC tender under Mode I/II/III and for all construction works (Applicable for CPWD enlisted and non-CPWD contractors).~~

~~One completed work costing not less than Rsexecuted with the structural system technology as proposed by bidder in letter of transmittal during the last 7 years ending last day of the month previous to the one in which tenders are invited. This work can be part of eligible work at 1.2.2 (i) above or as a separate work.~~

~~Or~~

~~If the bidder does not have adequate experience of opted technology then the bidder can associate with contractor having requisite experience of executing work in structural system with the opted technology. Bidder has to submit MoU in the prescribed format (Annexure-68 of SOP) with such associate contractor, along with his tender, for structural system in opted technology only. The associated contractor must satisfy the eligibility criteria of having successfully completed one work of opted technology having the cost of structural system not less than 20% of the estimated cost put to tender during the last seven years ending last day of month previous to the one in which tender is invited.~~

~~In case separate cost of structural system of a particular technology is not available in the experience certificate of associated contractor, it will be taken as 30% of completed cost of project/work.~~

~~Associated contractor should not have been debarred from any Ministry or any govt. organization in the last five years.~~

~~The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to previous day of last day of submission of bid.~~

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

~~I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer in Charge shall be free to~~

~~forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.
(Scanned copy to be uploaded at the time of submission of bid).~~

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

~~But for such bids, Class I contractors of CPWD are eligible to submit the bids without submission of work experience certificate and affidavit. Therefore, CPWD class I contractors shall upload two separate letters for experience certificate and affidavit that these documents are not required to be submitted by them. Uploading of these two letters is mandatory otherwise system will not clear mandatory fields.~~

2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7/ 8 (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 **18 (Eighteen) Months** 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. (i) The site for the work is available.

Or

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

.....

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

Or

The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.

5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website <https://etender.cpwd.gov.in> or www.cpwd.gov.in in free of cost.
6. After submission of the bid the contractor can re-submit revised bid any number of times or withdraw it before last date and time of submission of bid as notified. No post-tender modification is allowed by the tenderers except through negotiations, if required. In case, any tenderer does so, the tender will be rejected and the tenderer will be debarred for future tendering in CPWD for two years by the concerned enlisting authority (in case of CPWD enlisted contractor) and by the concerned CE/SE (in case of non-enlisted contractor).
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.

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

9. Earnest Money amounting to **Rs.18,02,195.00** in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee including e- Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks (**Drawn in favour of Executive Engineer, Guwahati Central Division, CPWD, Guwahati-21, payable at Guwahati**) shall be scanned and uploaded on 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 including e- Bank Guarantee of any Commercial bank having validity for a period of 90 days for single bid works and 180 days for two bid system 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 notice inviting e-tender shall be scanned and uploaded on 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, who has deposited EMD with any division of CPWD and other documents scanned and uploaded are found in order.

The bid submitted shall be opened at 03:30 PM on 29/09/2026 .

10. The bid submitted shall become invalid and e-Tender processing fee (if applicable) shall not be refunded if:
- (i) The bidder is found ineligible.
 - (ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.
 - (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
 - (iv) If a tenderer 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 tenderer.
11. The contractor whose bid is accepted will be required to furnish performance guarantee at specified percentage of the tendered amount or ECPT (whichever is higher) as mentioned in schedule E, 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 of 5% of tendered amount, shall
- Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount. (vide DG, CPWD OM No. DG/CON/Construction 2023/20 dt. 27.02.2026). The contractor shall submit an irrevocable Performance Guarantee as mentioned in Schedule 'E', in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. 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 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:-**

"Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."

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 bidder 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 enlisted contractor in CPWD shall not be allowed to participate in the tender for work(s) in the CPWD Zone/circle /Division/Sub-Division responsible for award and/or execution of contract(s) in which his near relative is posted as an officer in any capacity

between the grades of the Chief Engineer and Junior Engineer (both inclusive) or Divisional Accountant. 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 Housing and Urban Affairs. 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 bids for the work shall remain open for acceptance for a period of **30 (thirty) days** from the date of opening of bids in case of single bid system ~~and 75 (seventy five) days from the date of opening of technical bids in case bids are invited in 2 or 3 bid system. Further.~~
 - i) If any tenderer withdraws his tender within 7 days after last date and time (24 hours basis) of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
 - ii) If any tenderer withdraws his tender after expiry of 7 days after last date and time (24 hours basis) of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
 - iii) Withdrawal of the tender, by the tenderer, shall only be made through e-tender portal. Any other method i.e. through letter / e-mail etc. shall not be considered.
 - iv) In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work and also the Government shall, without prejudice to any other right or remedy, be at liberty to suspend the agency for one year and shall not be eligible to bid for CPWD tenders from date of issue of suspension order.
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 10 days from the stipulated date of start of the work, sign the contract consisting of:-
 - (a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
 - (b) Standard C.P.W.D. Form 7/8 or other Standard C.P.W.D. Form as applicable.
20. **For Composite Bids**
 - 20.1.1 The Executive Engineer in charge of the major component will call bids for the composite work. The cost of bid document and Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite bid.

20.1.2 The bid document will include following three components:

Part A:- CPWD-6, CPWD-7/8 including schedule A to F for the major component of the work, Standard **General Conditions of Contract for CPWD 2023** as amended/ modified up to last date of submission of bid.

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

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

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

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

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

EE of major component will operate Part A and Part B of the agreement. EE/DDH in charge of minor component(s) shall operate Part- C along with Part A of the agreement.

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

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

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

20.1.9 In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-Charge of relevant specialized component(s).

The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-Charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

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

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

- 20.1.11 Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.
- 20.1.12A The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-Charge of major component after record of completion certificate of all other components.
- 20.1.12B Final bill of whole work shall be finalized and paid by the EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.
21. ~~Integrity Pact: The contractor shall download the Integrity Pact, which is a part of tender documents, affix his signature in the presence of a witness, and upload the same while submitting online bids for all works of estimated cost put to tender equal or more than the threshold value given in Schedule-F. In the event of his failure to sign and upload the Integrity Pact along with other bid documents, his bid shall be rejected.~~
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 (**Phone No. 9654267797, e-mail id : eegcdghy@gmail.com, Division : Guwahati Division, Guwahati**) 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.
- To be filled in by NIT approving authority.
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:-~~
- (i) ~~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).~~
- (ii) ~~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 reduced rate of 1/2% may be accepted in such cases.~~
- ~~The price preference upto 5% (with reference to the lowest valid price bid) may be allowed in favour of individual SC/ST contractor only. The above concession shall be allowed only after verification of the individual contractor's claim of belonging to SC/ST community.~~
24. The agency has to follow COVID guidelines as issued by the State/ Central Govt. from time to time to contain the spread of COVID-19 outbreak.

JURISDICTION OF COURTS

- 1) The Court of the place from where the letter of award of work has been issued shall have the jurisdiction to decide any dispute arising out of or in respect of the contract.
- 2) CPWD does not have funds of its own and it carries out the works of client departments from their funds (deposit, budgetary, authorization). The CPWD is making payments to the contractors after getting budget / authorization / deposit from various Ministries / Client Departments. The payment to the contractor can be done only on availability of funds for that work from client department and in case of delay in getting funds from Ministry / Client Department, CPWD will not be responsible for delay in payment and no any extra compensation on this account shall be granted apart from specified elsewhere in this document. The contractor has to quote his tender accordingly considering this aspect.

RECEIPT OF DEPOSITION OF ORIGINAL EMD

(Receipt No. Date)

Name of work : "Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."

- 1. NIT No. :- 05/NIT/CE/GHY/2026-27**
- 2. Estimated Cost :- Rs.9,01,09,735.00**
- 3. Amount of Earnest Money Deposit :- Rs. 18,02,195.00**
- 4. Last date of submission of bid :- 29/09/2026**

(To be filled by Executive Engineer, Guwahati Central Division, CPWD, Guwahati-21, payable at Guwahati at the time of issue of NIT and uploaded along with NIT)**

- 1. Name of Contractor :-**
- 2. Form of EMD :-**
- 3. Amount of Earnest Money deposit :-**
- 4. Date of submission of EMD :-**

**Signature, Name and Designation of EMD
Receiving officer (EE/AAO)
Along with office stamp**

(# To be filled by EMD receiving EE)

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

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

(Applicable for inviting open bids)

The **Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021** on behalf of President of India invites online ~~Item rate/percentage rate~~ bids from approved and eligible contractors of CPWD and those of appropriate list of M.E.S., BSNL, Railway and State P.W.D. (B&R) or State Govt.'s Department dealing with building and roads, if there is no State PWD (B&R), (strike out as the case may be) for the following work(s)

" Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."

S. No	NIT No.	Name of work & Location	Estimated cost put to bid (Rs.)	Earnest Money	Stipulated Period of Completion of work (in months)	Last date of online submission of bid, copy of receipt of deposition of original EMD and other documents as specified in the bid document.	Date & time of opening of bid
1	2	3	4	5	6	7	8
1.	05/NIT/CE/GHY/2026-27	"Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."	Rs. 9,01,09,735.00 (Civil Rs.7,79,57,908.00) Electrical Rs.1,21,51,827.00)	Rs.18,02,195.00 In favor of EE, Guwahati Central Division, CPWD, Guwahati-21, payable at Guwahati	18 (Eighteen) Months	Up to 03.00 PM on 29/09/2026	Date 29/09/2026 at 03:30 P.M.

- The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
- Information and Instructions for bidders posted on website shall form part of bid document.
- 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.in> or www.cpwd.gov.in free of cost.
- 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 Banker's Cheque or Fixed Deposit Receipts or/ and Bank Guarantee including e-Bank Guarantee (for balance amount as Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

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 tenderer 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 tenderer.

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

- I. Account Payee Demand Draft / Banker's Cheque / FDR / Bank Guarantee (for balance amount as prescribed) of any Commercial Banker Insurance Surety Bonds against EMD.
- II. Copy of receipt for deposition of original EMD to division office of any EE, CPWD.
- III. Enlistment order of the Contractor.
- ~~IV. Certificates of Work Experience (if required from non CPWD and CPWD class II contractors).~~
- ~~V. Affidavit as per clause 1.2.3 of CPWD 6 (if required from non CPWD and CPWD class II contractors).~~
- ~~VI. Two letters from CPWD class I contractors as specified under clause 1.2.3 of CPWD 6 (if applicable).~~
- VII. **GST Registration Certificate if already obtained by the bidder.**

If the bidder has not obtained GST registration as applicable, then he shall scan and upload following under taking along with bid documents.

"If work is awarded to me, I/we shall obtain GST registration certificate, as applicable, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/we shall be responsible for any 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".

~~VIII. Integrity Pact signed by the bidder in the presence of a witness for works equal to or above the threshold value given in Schedule F.~~

IX. Details of Undertaking on structural stability and soundness of already completed buildings and infrastructure Projects in below as per **Form "F"**.

X. Copy of PAN card.

XI. **Copy of Electrical Contractor License.**

If the bidder has not obtained Electrical Contractor License **as applicable**, then he shall scan and upload following undertaking along with bid documents.

"If work is awarded to me, I/we shall obtain Electrical Contractor License, or if I/we do not possess in my/our name a valid electrical license as required, I/we shall associate an agency having such a license required for execution of work as applicable, within one month from the date of receipt of award letter or before release of any Payment by CPWD, whichever is earlier, failing which I/we shall be responsible for any 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 concerned competent authority in this regard".

XII. The agency must upload the ERP training Certificate regarding successful completion of ERP training from ERP portal.

XIII. Undertaking for Association as per **Annexure – A**.

CPWD – 7

GOVERNMENT OF INDIA CENTRAL PUBLIC WORKS DEPARTMENT

Percentage rate tender & contract for works

(A) Tender for the work of :-

"Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."

- (i) To be uploaded by **15:00 hours on 29/09/2026** in the office of **Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.**
- (ii) To be opened in presence of tenderers who may be present at **15:30 hours on 29/09/2026** in the office of **Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.**

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 respect with the specifications, designs, drawing 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 respect of accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for 30 days from the due date of its opening in case of single bid system 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 the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a 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,

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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 Performance Guarantee/Earnest Money.

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 there from 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.

Dated:

Signatures

Designation

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 (i/c e-bank guarantee) for Earnest Money Deposit /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 (i/c e-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 an irrevocable Bank guarantee (i/c e-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 here by 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. (Rupeesonly).
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 (i/c e-bank guarantee) being absolute and unequivocal. The payment so made by us under this Bank guarantee (i/c e-bank guarantee) shall be a valid discharge of our liability for payment there under 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 from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

against the said contractor and to for bear 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 (i/c e-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:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Signature..... 2. Name and Address | <p>Authorized Signatory</p> <p>Name</p> |
| <p>Designation</p> <p>Staff code no.</p> <p>Bank seal</p> | |
| <ol style="list-style-type: none"> 1. Signature..... | <p>Name and Address</p> |

*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 (i/c e-bank guarantee) will be made either for earnest money or for performance guarantee/security deposit/mobilization advance, as the case may be.

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

Form-F

**UNDERTAKING ON STRUCTURAL STABILITY AND SOUNDNESS OF ALREADY
COMPLETED BUILDINGS AND INFRASTRUCTURE PROJECTS**

**AFFIDAVIT TO BE FURNISHED ON A 'NON JUDICIAL' STAMP
PAPER OF RS. 200/-**

**Name of Work: " Construction of Office-Cum Residential Complex along
with Boundary Wall for SIB at Mathanguri (Assam)."**

NIT No. : 05/NIT/CE/GHY/2026-27

I/we undertake and confirm that any building / infrastructure constructed by our firm /partnership firm/ company has not suffered any failure, making it unfit for intended use, either due to structural design and defects or due to use of sub-standard materials or execution of sub-standard work, poor workmanship or any other reason during the last 25 (twenty five) years.

I/we, further, undertake that if such information comes to the notice of CPWD, then Engineer-in-Charge shall be free to terminate the bid/agreement and to forfeit the entire amount of earnest money deposit, performance guarantee and security deposits.

I/we, also undertake that in addition to above, the Engineer-in-Charge shall be free to debar us forever from tendering in CPWD.

The decision of Engineer-in-Charge or any higher authority shall be final and binding.

Signature of notary
with seal

Signature of bidder or an authorized person
of the firm with stamp

Note: Affidavit to be furnished on a 'Non-judicial' stamp paper of Rs. 200/- (scanned copy of the notarized affidavit to be uploaded at the time of submission of bid).

ANNEXURE – A

UNDERTAKING FOR ASSOCIATION
(AFFIDAVIT TO BE FURNISHED ON A ‘NON JUDICIAL’ STAMP PAPER OF RS. 200/-)

AFFIDAVIT

Name of Work: **"Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."**

NIT No. : 05/NIT/CE/GHY/2026-27

I / we hereby undertake that I/We shall submit the documents of Associated specialized Agencies/ Manufacturer / Authorized service agency / service provider as per eligibility criteria mentioned in the special condition of NIT for association of Specialized Agencies within 10 days from the date of issue of letter of acceptance. I/ we am/ are also aware that Nonrefundable penalty @ Rs. 5000/- shall be imposed on each day of delay for each specialized subhead / Electrical work in case of submission of required details beyond specified period. Delayed submission with penalty shall be admissible up to next 10 days, beyond I/ we shall make ourselves liable for action under relevant clause of GCC.

Signature of the bidder

Stamp

Address:

Date :

Place :

PERFORMA OF SCHEDULES

SCHEDULE 'A'

Schedule of quantities (As per PWD-3)	:	From Page No. 104-138
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SCHEDULE 'D'

Extra schedule for specific requirements / documents for the work, if any	:	General Conditions, Additional Specifications
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SCHEDULE 'E'

Reference to General Condition of contract	:	General Conditions of Contract 2023 (Construction work) CPWD – 7 with upto date corrections slip issued till last date of submission of bid.
Name of work	:	"Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."
Estimated cost of work	:	Rs. 9,01,09,735.00 Civil: Rs. 7,79,57,908.00 Electrical: Rs.1,21,51,827.00
1) Earnest money	:	Rs.18,02,195.00
2) Performance Guarantee	:	(a) PG: 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is heigher). (b) APG: Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT) the Performnce 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. (c) Performance Guarantee shall remain valid for a minimum period of six months beyond the date of completion of all contractual obligations as per GCC. The Additional Performance Guarantee (APG) shall be in the prescribed format of Performance Guarantee and has to be submitted within the time frame prescribed for submission of Performance Guarantee. The other terms and conditions of release etc. of APG shall be same as that of PG.
3) Security Deposit	:	2.5 % of tendered value.

SCHEDULE ‘F’**GENERAL RULES & DIRECTIONS:**

Officer Inviting Tender	:	Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3	:	See below under clause 12 of Schedule ‘F’

Definitions:

2(vi)	Engineer-in-Charge	:	Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.
2(viii)	Accepting Authority	:	Chief Engineer Guwahati, CPWD, Guwahati - 781035
2(x)	Percentage on cost of materials and labour to cover all overheads and profits.	:	15%
	Standard Schedule of Rates	:	Based on DSR-2023 (Upto date correction slip) & Market Rate
2(xi)	Department	:	Central Public Works Department
9(ii)	Standard CPWD contract Form GCC 2023 (Construction work), C.P.W.D Form 7/8 as modified and corrected up to last date of submission of bid.	:	Form 7

Clause 1

(i)	Time allowed for submission of Performance Guarantee Programme Chart (Time and Progress) and applicable Labour Licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue letter of acceptance.	:	10 (Ten) Days
(ii)	Maximum allowable extension with late fee @ 0.1% Per day of Performance Guarantee amount beyond the period provided in (i) above	:	5 (Five) Days with late fee @ 0.1% Per day of PG amount + APG amount

Clause 2

Authority for fixing compensation under clause 2	:	Chief Engineer, Guwahati CPWD, Guwahati- 781035.
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Clause 2A

Applicable Clause 2 / Clause 2A	:	Yes, Clause 2
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Clause 5

Number of days from the date of issue of letter of acceptance of work for reckoning date of start	:	10 Days
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Mile stone(s) as per table given below:-

Mile Stone Break up			
Sl. No.	Description of Milestone (Physical)	Time Allowed (from date of start)	Amount to be withheld in case of non-achievement of milestone (% of tender amount of civil portion)
1.	Completion of foundation	06 Months `	1 %
2.	Completion of Superstructure	12 Months	1%
3.	Completion of masonry work, flooring, plumbing work	17 Months	1%
4	Completion of building i/c painting etc.	17.5 Months	1%
5.	Handing over the site	18 Months	1%

Time allowed for execution of work.	:	18 (Eighteen) months.
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Authority to decide:

(i)	Authority to convey the decision of shifting of milestone and Extension of time	:	Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.
(ii)	Authority to decide rescheduling of milestone and extension of time	:	Chief Engineer, Guwahati, CPWD, Guwahati - 781035
(iii)	Shifting of date of start in case of delay in handing over of site.	:	Chief Engineer, Guwahati, CPWD, Guwahati - 781035

Proforma of schedule 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	As per CPWD 6 (Sl. No. 3)
Part B	Portion with encumbrances	Nil	NA
Part C	Portions dependent on work of other agencies	NA	NA

Clause 6

Mode of Measurement: Computersised Measurement Book (CMB) / Electronic Measurement Book (EMB)	:	EMB
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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 for interim payment.	:	Rs. 43.30 Lakh [Except Final Bill] However, the Engineer-in-Charge at his discretion may release monthly payment even at a lesser amount subjected to availability of funds from client and LoC. But Contractor should not claim it as a matter of right and no interest payment as per clause 7 is permitted unless the work executed is beyond gross value of work done as stipulated above and the bill is received in the division office, complete in all respects with all required attachments & Annexures /Statements
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Clause 7A

Whether Clause 7A shall be applicable	:	Yes Applicable
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Clause 8

Competent Authorities to inspect and issue part / final completion certificate	:	As per CPWD Works Manual – 2026 with latest amendment issued time to time
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Clause 8A

Authority to decide compensation on account If contractor fails to submit completion plans	:	Chief Engineer, Guwahati CPWD, Guwahati-35.
Recovery rate for not submission of completion plans by the contractor	:	0.1% of tendered value of all Components subject to ceiling of Rs.1,00,000/- (Rupees One Lakh only).

Clause 10A**List of testing equipment to be provided by the contractor at site lab:**

Equipment's for conducting necessary tests (as per CPWD Specifications 2019 Volume-I&II) shall be provided and installed at site campus 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 setup at site laboratory:-

Sl. No.	Equipment	Numbers
1	Balances	
	(i) 7 kg to 10 kg capacity, semi-self-indicative type-accuracy 10 gm	1 No.
2	Sieves : as per IS 460-1962	
	(i) IS sieves -200mm/300mm internal dia (brass frame) consisting of 12.5 mm, 10 mm, 4.75 mm, 2.36 mm, 1.18 mm, 600 microns, 300 microns, 150 mm with lid and pan	1 set
3	Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly	1 No.
4	Dial gauges, 25mm travel-0.1 mm/division least count	1 No.
5	Graduated measuring cylinders 200 ml capacity	1 No.
6	Steel tapes-3 m	1 No.
7	Vernier calipers	1 No.
8	Micrometer screw 25mm gauge	1 No.
9	A good quality plumb bob	1 No.
10	Spirit level, minimum 30cms long with 3 bubbles for horizontal vertical	1 No.
11	Wire gauge (circular type) disc	1 No.
12	Foot rule	1 No.
13	Long nylon thread	1 No.
14	Magnifying glass	1 No.
15	Screw driver 30 cms long	1 No.
16	Ball pin hammer, 100 gms	1 No.
17	Plastic bags for taking samples	3 Nos.
18	Depth Gauge	1 No.
19	Straight edge	2 Nos.
20	Compression testing machine (CTM)	1 No.
21	Cube Mould (150x150x150mm)	12 Nos.
22	Slump Cone	1 No.
23	Laboratory oven	1 No.
24	Water testing Kit	1 No.
25	Any other equipment for site tests as outlined in BIS codes and as per test specified in CPWD specifications 2019 directed by Engineer-in-charge.	As per requirement

Clause 10-B (ii)

Whether clause 10-B (ii) shall be applicable	:	Not Applicable
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Clause 10 C : **Not Applicable**

Component of labour expressed as percentage of value of work	:	NA
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Clause 10 CC : **Applicable**

A. For Construction Period :

S. No.	Relevant component of Material / Labour for price escalation	Percentage of total value of work
1	Cement component	16%
2	Labour component	25%
3	Civil component of other Construction Materials	24%
4	E&M (Electrical and Mechanical) component of Construction Materials	14%
5	POL (Diesel) component	0%
6	Reinforcement steel bars / TMT bars / structural steels (including strands and cables) component	21%
7	Bitumen component	0%
	Total	100%

B. For maintenance period

S. No.	Relevant component of Material / Labour for price escalation	Percentage of total value of work
1	Labour component	N/A
2	Civil component of other Construction Materials	
3	E&M (Electrical and Mechanical) component of Construction Materials	
4	Bitumen component (For Road Work component)	
	Total	

Clause 11

Specifications to be followed for execution of work	:	CPWD specifications 2019 Volume I and II, with modifications / corrections issued time to time.
Building information model (BIM) is applicable and BIM professional to be deployed by contractor	:	No

Clause 12.2 (c)

Deviation limit beyond which clause 12.2 (c) shall apply for building work.	:	100%
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Clause 12.4

(i) Deviation limit beyond which clauses 12.2 (c) shall apply for foundation work (except items mentioned in earth works subhead in DSR and related items).	:	100%
(ii) Deviation Limit for items mentioned in earth work subhead of DSR and related items.	:	100%

Clause 16

Competent Authority for deciding reduced rates	:	Chief Engineer, Guwahati CPWD, Guwahati-35.
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Clause 18

1.	Machinery & equipment required for completion of the work as per decision of Engineer-in-charge.	As per requirement
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Note: The T&P are to be deployed as and when required or as directed by Engineer-in Charge.

Clause 19 C	Authority to decide penalty for each default	:	Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.
Clause 19 D	Authority to decide penalty for each default	:	Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.
Clause 19 G	Authority to decide penalty for each default	:	Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.
Clause 19 K	Authority to decide penalty for each default	:	Executive Engineer, Guwahati Division, CPWD, Guwahati – 781021.

Clause 25

Conciliator	Additional Director General, Guwahati, CPWD
Arbitrator Appointing Authority	Chief Engineer, Guwahati
Place of Arbitration	Guwahati only.

Clause 32

Requirement of Technical Representative (s) & recovery Rate

Sl. No	Minimum Qualification of Technical representative	Number	Minimum Experience (years)	Designation (Principal Technical / Technical)	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)	
					Figures	Words
1.	Graduate Engineer	1	5 (and having experience of one similar nature of work)	Project Manager	Rs. 25,000/- per month	Rs. Twenty Five Thousand only per month
2	Graduate Engineer or Diploma Engineer	1 + 1	2 or 5 respectively	Project Planning /quality/billing Engineer	Rs. 15,000/- per month per person	Rs. Fifteen Thousand only per month per person

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

Diploma Engineer with minimum 10 years 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**, corrected up to date printed by CPWD.
(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	:	2.5% only and 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

PART - B

PART I — BRIEF PARTICULARS OF THE WORK

1. Salient Details of the Work

Name of Work	“Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam).”
Estimated Cost Put to Tender	Rs.9,01,09,735.00
Earnest Money Deposit (EMD)	Rs.18,02,195.00
Time Allowed for Completion	18 (Eighteen) Months.
Location of Work	SIB at Mathanguri, Assam

2. Scope and Nature of Work

- 2.1 The present tender is for the work named above in its entirety, including all civil, structural, electrical and mechanical (E&M) components described in this document and the Schedule of Quantities. Details of E&M works are given separately in other part of the tender document.
- 2.2 The cost of labour, materials, tools, plant and machinery required for execution of the whole project is deemed to be within the scope of this work, and the Contractor's quoted rates shall be inclusive of the same.
- 2.3 Miscellaneous and allied works forming part of the scope, to be executed in accordance with CPWD Specifications and NBC 2016 (in addition to matters specified elsewhere in this document), include:
- All civil structure work including foundation work, masonry work, finishing work, flooring, roofing, false ceiling, door and window work along with fittings, railings, waterproofing work, and internal plumbing, sanitary and drainage works.
 - External water supply and sewerage, storm water drainage, rain water harvesting including trough trenches, recharge pits, disposal of excess overflow, etc.; plumbing and sanitary underground services.
 - Electrical internal and external service connection.
 - Sub-station.
 - Fire-fighting system.
 - Fire alarm system.
 - Grid-interactive roof-top solar photovoltaic power generation system.
 - Lift.
 - DG Set.
 - UPS.
 - CCTV/EPABX/LAN.
 - Underground water tank with pump house.

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- Site development including levelling, roads, footpaths, walkways, etc., as per the final approved layout plan i/c boundary wall.
 - External service connections for electricity, water supply, sewerage system and other services.
 - Barricading if required of all areas as per NGT guidelines, and dismantling of its foundation, barricading and removal after completion of work.
 - Development of site: levelling, internal roads and paths, filtered water supply, road marking, street lighting, sign boards, water treatment plant, external electrical service connection, solar lighting, solar water heating system, and internal/external signages.
- 2.4 **Shifting/Removal of Services and Statutory Approvals:** The Contractor shall take all necessary measures to remove any live or dead service lines running through the plot area, without extra cost, and shall obtain the completion/occupation certificate, fire-department NOC and other statutory approvals related to the building for handing over the assets. The Engineer-in-Charge and the client shall extend necessary support for these approvals; the Contractor shall be bound to abide by all clauses of statutory and other approvals, and the work shall be declared complete only after all such approvals have been obtained.
- 3. Site Conditions and Contractor's Acknowledgment**
- 3.1 The Contractor shall be deemed to have satisfied himself, before tendering, as to the nature and location of the work, general and local conditions (including restrictions on movement of traffic/vehicles), handling, availability and storage of materials, availability of labour, weather conditions, and general ground/sub-soil conditions. Rates shall be quoted accordingly; nothing extra shall be payable on any of these accounts, and the Engineer-in-Charge shall bear no responsibility for any lack of such knowledge on the part of the Contractor.
- 3.2 Information and site data shown in the drawings and tender documents are furnished in good faith, for general information and guidance only. The Engineer-in-Charge shall not be held responsible for the accuracy of such information or for any interpretations or conclusions drawn from it by the Contractor, and all consequences shall be borne by the Contractor. No claim shall be entertained on the ground that the information furnished was insufficient, different, or at variance with actual site conditions.
- 4. Governing Specifications and Contract Documents**
- 4.1 CPWD Specifications 2019 (Vol. I & II, corrected up to the last date of submission of the bid), relevant BIS/IS Codes, and the National Building Code 2016 shall be followed in general, except where otherwise specifically mentioned in this document. Where specifications are not available in the tender document for a particular item, the manufacturer's specification shall be followed.
- 4.2 The work shall be executed under, and shall be governed by, the General Conditions of Contract (GCC) 2023 for CPWD Construction Works, as corrected up to the last date of submission of the bid.
- 4.3 Order of precedence in case of discrepancy between documents (read with Condition 8.1 of the standard CPWD contract form):

- (i) Nomenclature of items as per the Schedule of Quantities.
 - (ii) Particular specifications and special conditions, if any.
 - (iii) CPWD Specifications.
 - (iv) Architectural Drawings.
 - (v) Indian Standard Specifications of the BIS.
 - (vi) Sound Engineering Practice.
- 4.4 Wherever reference is made to any IS/BIS or international standard (ASTM/BS/EN) in the contract documents, such reference shall be deemed to include all amendments and revisions issued up to the date of receipt of tenders.
- 4.5 The work shall be executed and measured in metric dimensions as per the Schedule of Quantities and drawings; F.P.S. units, wherever indicated, are for guidance only.
- 5. Defect Liability and Structural Responsibility**
- 5.1 Defects and deficiencies found during the Defect Liability Period of 12 months shall be made good by the Contractor at his own cost, as per Clause 17 of GCC 2023.
- 5.2 The Contractor shall be responsible for the safety, quality and soundness of the buildings, including structural elements, beyond the maintenance period, and shall rectify all defects in structural elements or any other part of the building/structure/road at his own cost for 5 (Five) years from the date of completion recorded in the completion certificate as per clause 24 of GCC 2023. Such rectification shall be carried out within the time specified in the Engineer-in-Charge's instructions/notice (Not exceeding 45 days) and as per methodology approved by him.
- 6. Statutory Approvals, Service Connections and Handover**
- 6.1 The Contractor shall, at no extra cost, remove or shift any live or dead service lines running through the plot area, and shall obtain the completion/occupation certificate, fire-department NOC, and other statutory approvals for handing over the assets. The Department and the client shall extend necessary support for these approvals, but the work shall be declared complete only after all such statutory approvals have been obtained.
- 6.2 The Contractor shall obtain all service connections (water supply, sewerage, drainage, electric supply, LAN/WAN, telephone lines, gas pipeline, etc.) from the main lines of the respective authorities/service providers (e.g., GJB/GMC/MTNL/IGGL). Such connection and coordination shall be an integral part of the scope of work, and the cost is deemed included in the quoted rates.
- 6.3 The Contractor shall submit shop drawings for plumbing, drainage, sewerage, MS grills, SS railings, uPVC windows/Aluminium windows, door frames and shutters, structural steel, aluminium/glazing work, modular kitchens and wardrobes, and detailed layout/3-D drawings for all civil and electrical services, supported by design, for approval of the Engineer-in-Charge.
- 6.4 On completion, the Contractor shall hand over the assets together with as-built drawings, an as-built BIM Model if applicable, services route plans, maintenance manuals, and all applicable warranties/guarantees.

- 6.5 Testing, commissioning of all services, fittings, fixtures and equipment, and handing over the same to the client is included in the scope of work.
- 6.6 Completeness of Work: (a) All civil and E&M installations shall be completed in all respects and put into operation, even where certain details have not been specifically mentioned in the contract documents. (b) All civil and E&M works shall be declared complete by the Engineer-in-Charge only after a trial run of one month, or on the date of handing over of the whole work under the agreement, whichever is later.

7. Building Information Modelling (BIM)

- ~~7.1 The Contractor shall develop a 3D BIM model for the entire complex, before taking up execution, from advanced detailed drawings on Revit/architectural CAD software. Coordinated construction drawings for architecture, structure, HVAC, fire safety, electrical, plumbing, sanitary and external services shall be issued from the BIM model, with clash detection and resolution carried out prior to issue of good for construction drawings.~~
- ~~7.2 A detailed BIM Execution Plan (BEP) shall be submitted by the Contractor upon award of contract.~~
- ~~7.3 The Contractor shall engage a specialized BIM Consultant, approved by the Engineer in Charge, to develop the BIM model to Level of Development (LOD) 350, for use through construction and O&M phases; the overall design (structural, architectural, mechanical, electrical, plumbing and supporting infrastructure) shall be developed by the Contractor's specialized agency to the same LOD.~~
- ~~7.4 All clashes/conflicts between civil, architectural, MEPF and HVAC services shall be identified through BIM coordination and submitted to the Engineer in Charge for review, well in advance of execution. The BIM model shall be kept current with all revisions and approved changes; complete as built drawings along with the final updated BIM Model (LOD 350) shall be submitted at handover. Rates quoted are inclusive of all BIM obligations; nothing extra shall be paid on this account.~~

8. Royalty on Minor Minerals

- 8.1 Deduction of Royalty: Royalty and ancillary charges on all minor minerals (sand, stone, earth, clay, boulders, aggregates, etc.) used in the work shall be recovered from the Contractor's Running Account and Final Bills at the rates prescribed under the Assam Minor Mineral Concession Rules, 2013, as amended by the 2021 Amendment Rules (Gazette Notification No. PEM.130/2021/40 dated 07.10.2021) and as further revised from time to time, after adjusting royalty already paid by the Contractor.
- 8.2 Basis of Recovery: Recovery shall be in proportion to the prescribed percentage of the total project cost, excluding taxes such as GST and Income Tax, as notified under the said Rules.
- 8.3 Mode of Deposit: Amounts recovered shall be deposited by the Department into the appropriate Government Head of Account or Bank Account notified by the Government of Assam.

- 8.4 Responsibility of Contractor: It shall be the Contractor's responsibility to ensure all minor minerals are sourced from authorised quarries/mines with valid permits, and that royalty has been paid where minerals are procured through suppliers; in the event of non-payment, the Department shall recover the amount from the Contractor's bills. No final payment shall be released until compliance is established or recovery effected. Royalty on any surplus earth shall similarly be borne by the Contractor at prevailing rates.

9. Labour Accommodation

Space within the site premises shall be made available for labour hutments, in compliance with CPWD GCC, the Contract Labour (Regulation & Abolition) Act, and applicable local laws. If site space is insufficient, the Contractor shall, at his own cost, arrange labour accommodation outside the site. All expenses for land rent, construction, maintenance, water supply, electricity, sanitation, safety, statutory compliance, watch-and-ward and dismantling of such camps shall be borne entirely by the Contractor; the tendered rates are deemed inclusive of all such arrangements, and no extra payment or claim shall be admissible on this account.

PART II — ADDITIONAL CONDITIONS OF CONTRACT

1. Rates: General Basis and Inclusions

- 1.1 Unless otherwise provided in the Schedule of Quantities, quoted rates are all-inclusive and shall apply to all heights, lifts, leads and depths of the building, and to work in/under water or foul conditions. Nothing extra shall be payable on this account. Payment for centring/shuttering required for floor-to-floor heights greater than 3.5 m shall be admissible only at rates arrived at under Clause 12 of the agreement, if not already specified.
- 1.2 Rates are deemed inclusive of: site clearance, setting-out, profile and layout on ground, reference benchmarks, signage, spot levels, total-station survey, all safety and protective devices, mandatory helmets/safety shoes and other gadgets, continuous worker training, barriers, preparatory works, hygienic worker housing per approved drawings, working during monsoon or odd hours/beyond normal hours, working at all depths/heights/leads/lifts/levels/locations, and any other unforeseen but essential incidental work. No extension of time shall be granted on these accounts.
- 1.3 Rates are firm and inclusive of all taxes and levies. No foreign exchange shall be made available by the Department for import of equipment, plant, machinery or materials; no claim on account of exchange-rate variation shall be entertained.
- 1.4 All ancillary and incidental facilities for execution — labour camp, stores, fabrication yard, Contractor's and CPWD site offices, watch-and-ward, temporary ramps, water-storage tanks, temporary electricity/telephone/water installation and running charges, liaison for NOCs and completion certificates, protection works, site testing facilities/laboratory, and any other activity necessary for execution as directed by the Engineer-in-Charge — are deemed included in the quoted rates; nothing extra is payable. Before starting work, the Contractor shall submit a site/construction-yard layout to the Engineer-in-Charge.
- 1.5 Material shall be brought to site only as per the programme finalised with the Engineer-in-Charge; pre-delivery of material not required for immediate consumption shall neither be accepted nor paid for. No claim for idle establishment, labour, machinery, equipment or tools/plant, for any reason, shall be admissible during or after execution of the work.
- 1.6 The Contractor may be required to work in two or more shifts, including night shifts, to complete the work on time; no claim shall be entertained on this account, notwithstanding any extra amounts the Contractor may have to pay labour or staff under applicable statutory regulations.

2. Site Inspection, Survey and Setting-Out

- 2.1 The Contractor shall inspect and examine the site and its surroundings and satisfy himself as to the nature of the site, means of access, local regulatory constraints, ground/sub-soil conditions, and any other circumstance affecting the tender. Drawings may be inspected, before submission of the tender, at the Office of the Executive Engineer, Guwahati Division, CPWD, Guwahati-781021. The Department bears no responsibility for the Contractor's lack of such knowledge or its consequences.

- 2.2 The Contractor shall, at his own cost, carry out survey of the work area, set out the layout, and fix the alignment of the building as per the architectural and structural drawings, in consultation with the Engineer-in-Charge. Any discrepancy between drawings and actual site layout shall be brought to the Engineer-in-Charge's notice; correct setting-out remains the Contractor's responsibility, and nothing extra is payable. No claim shall be entertained later on the plea that departmental information was insufficient or at variance with site conditions.
- 2.3 Structural and architectural drawings shall at all times be properly co-related before executing any work; discrepancies shall be resolved in writing by the Engineer-in-Charge before the Contractor proceeds.

3. Temporary Water, Electricity and Telephone Connections

- 3.1 The Contractor shall, at his own cost, arrange temporary telephone, water and electricity connections required at site, obtaining necessary permissions directly from the concerned authorities (under intimation to the Department). All initial costs, running charges and security deposits shall be borne by him, and he shall be solely liable for any penalty for violation of applicable rules/bye-laws.
- 3.2 The Contractor shall be responsible for maintenance and watch-and-ward of the installation and meters, and for any pilferage, theft, damage or penalty, and shall indemnify the Department against any resulting claim. Security deposit shall be released only after No-Dues Certificates are obtained from the relevant local authorities.
- 3.3 The Department shall not be responsible for any delay in obtaining electric, water or telephone connections, or for failure to obtain them at all; no claim of delay shall be entertained. The Contractor shall make contingency/standby arrangements for water and electric supply so that the work does not suffer.

4. Coordination with Other Agencies and Contractors

- 4.1 Other agencies engaged on this project (e.g., sub-station/DG sets, air-conditioning, lifts) will execute their works simultaneously; the Contractor shall afford necessary facilities, leave required holes, recesses, openings, trenches, etc., and fix inserts/sleeves/conduits/clamps at the time of casting, at no extra cost (except where inserts etc. are supplied free of cost by the Department, as specifically stated).
- 4.2 The Contractor shall not interfere with or hinder the progress of work by other contractors or the Engineer-in-Charge, and shall coordinate placement/removal of materials, work sequencing and site activities accordingly. He shall cooperate with sub-contractors and other agencies (allowing use of scaffolding, toilets, sheds; providing control lines/benchmarks; providing electricity, water, hoist and crane facilities at mutually agreed rates), and shall resolve disputes with other contractors amicably without involving the Engineer-in-Charge as arbitrator. The Contractor is responsible for damage caused by hindrance attributable to him, and shall indemnify the Department against claims arising from such disputes.
- 4.3 Restrictions on working hours or movement of labour/materials, as may be imposed by the client department, local body or security staff, shall be strictly followed by the Contractor, including issue of identity cards to authorised persons; nothing extra shall be payable on this account.

5. Compliance with Local Laws and By-Laws

- 5.1 Building work shall comply in all respects with the relevant local-body by-laws under whose jurisdiction the work is executed, or as directed by the Engineer-in-Charge, at no extra cost.
- 5.2 Water tanks, taps, sanitary fittings, water-supply and drainage pipes and accessories shall conform to the Municipal Body/Corporation's bye-laws and specifications where CPWD specifications are not available; the Contractor shall engage licensed plumbers and get fixtures/fittings tested by the Municipal Authorities where required, at his own cost.
- 5.3 The Contractor shall comply with all legal orders and directions of the local/public authority or municipality, abide by their rules and regulations, and pay all applicable fees and charges.

6. Performance Testing, Sample Units and Workmanship

- 6.1 The Contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted; nothing extra is payable for the test.
- 6.2 The Contractor shall work according to the programme approved by the Engineer-in-Charge, and shall submit a computer-software-based programme of work within 7 days of award, updated fortnightly. A monthly progress report shall be submitted in computerised form, containing (at minimum): project information and scope; a bar-chart construction schedule for the next three quarters showing milestones and progress; a progress chart of planned vs. achieved work with reasons for deviation; plant-and-machinery and man-power statements; a financial statement (RA payments, advances, recoveries, withheld amounts); a statement of extra/substituted items, bank guarantees and insurance policies; colour progress photographs; QA/QC test results for the month; and videography of major stages/events from start to completion. Failure in submission of MPR (Monthly Progress Report) will attract a fine of Rs.5000.00 (Rupees Five Thousand)only per month.
- 6.3 The Contractor shall construct a sample unit, complete in all respects, within the time specified by the Engineer-in-Charge, to be got approved before mass construction; no extra claim beyond agreement rates shall be entertained on this account.
- 6.4 Work shall be carried out in a professional manner, with the finished product serving its intended purpose with specified strength, durability and aesthetics, in a well-thought-out sequence so that later activities do not adversely affect earlier work. Nothing extra shall be payable to protect work already done.
- 6.5 The Contractor is entirely and exclusively responsible for the horizontal, vertical and other alignments, levels and correctness of every part of the work, and shall rectify any errors or imperfections at his own cost, to the entire satisfaction of the Engineer-in-Charge.

7. Materials — General Handling, Storage and Approval

- 7.1 Samples of all materials and fittings (brand, manufacturer, quality) shall be got approved from the Engineer-in-Charge well in advance of execution, and preserved until completion. Only BIS-marked articles shall be used, unless no manufacturer holds a BIS mark for the material concerned; unapproved material shall be removed as soon as directed.

- 7.2 The Contractor shall procure all materials in advance to allow sufficient time for testing and clearance before use.
- 7.3 The Contractor shall take instructions from the Engineer-in-Charge regarding stacking of materials; no excavated earth or building material shall be stacked on areas earmarked for other buildings, roads, services or compound walls. Double handling, if required, shall be at the Contractor's own cost.
- 7.4 The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by the Department or procured by him, and shall construct suitable godowns/yards at site to protect materials from sun, rain, fire and theft, employing necessary watch-and-ward at his own cost. He remains fully responsible for safe custody even under a double-lock system. All materials shall be got checked by the Engineer-in-Charge or his representative on receipt at site before use.
- 7.5 Any cement slurry added over a base surface, or for continuation of concreting/protecting reinforcement, is deemed included in the relevant item; nothing extra shall be payable, nor shall extra cement be considered in the cement-consumption account, on this account.
- 7.6 Drilling of holes for fasteners/screws and chase-cutting in walls shall be done by mechanical means only (hammer-drill/chase-cutting machine); nothing extra shall be paid.
- 7.7 Cutting of centrifugal cast (spun) iron pipes shall be done by electric machine.
- 7.8 Reinforcement provided in brick-masonry manholes as per standard design is included in the manhole item and shall not be separately measured for payment as reinforcement.
- 7.9 Brand and trade name of paint shall be got approved in writing before application of sample shades; after approval, bulk procurement shall be made, and original purchase vouchers/delivery challans for the full quantity produced to the Engineer-in-Charge before commencing painting.
- 7.10 The Contractor shall submit the Material Test Certificate (MTC) from the respective manufacturer for all materials supplied at site, along with delivery.

8. Testing of Materials and Works

- 8.1 The Contractor shall arrange all tests required under CPWD specifications through a laboratory approved by the Engineer-in-Charge, and shall bear all charges connected therewith, including testing fees and the cost of samples and their carriage. He shall establish a site laboratory at his own cost, equipped as per specification/direction of the Engineer-in-Charge; this does not absolve him from getting tests done at independent approved laboratories where required.
- 8.2 Even BIS-marked materials may be subjected to quality testing at the Engineer-in-Charge's discretion; the Contractor shall furnish manufacturer/laboratory test certificates on request.
- 8.3 Substandard material or work found not conforming to specification shall be rejected and removed from site within 48 hours (or within the time specified elsewhere for the particular material), failing which the Engineer-in-Charge shall have it removed at the Contractor's risk and cost, without further notice.
- 8.4 In concrete and RCC work, the Contractor shall arrange compression-strength testing at his own cost, rendering all assistance for preparation, safe custody, curing and carriage of cubes to the approved laboratory. Time for testing and for preparation of design mixes,

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and for initial/routine load testing of piles and testing of welds, is included within the time allowed for execution under Clause 5 of Schedule 'F'.

- 8.5 Outside/Independent Testing Facilities shall be Government, semi-Government or private-sector laboratories; laboratories of Government institutes, PSUs, IITs, NITs, Government Engineering Colleges and Government-funded research centres are treated as Government labs, while private labs require approval of the SDG/ADG of the region.

9. Third-Party Quality Assurance (TPQA)

- 9.1 The Department may engage a Third-Party Quality Assurance agency (e.g. IIT Guwahati, an NIT, Government Engineering College, EIL, RITES, or as approved by the Chief Engineer) to independently inspect construction work, test materials and check quality procedures, similar to Clause 16 of the agreement.
- 9.2 The Contractor shall fully cooperate with the TPQA team — facilitating sampling, transportation and examination, including documentation — at no extra time or cost to the Department, and shall carry out any rectification arising from adverse TPQA findings at no extra time or cost. At least 10% of samples, including cement concrete cubes, shall be taken jointly by the Contractor and TPQA/Engineer-in-Charge or his representative.
- 9.3 The Contractor shall provide suitable office space and furniture for TPQA use, and shall bear all expenditure for sample testing (packaging, sealing, transportation, loading/unloading and testing charges), at no extra cost.

10. Registers, Records and Quality Assurance Documentation

- 10.1 The Contractor shall maintain all registers of tests carried out at site or in outside laboratories (issued to him by the Engineer-in-Charge in the same manner as to CPWD field staff), including: Materials-at-Site (MAS) account register, Cement register, Master test register, Cube test register, Paint register, Inspection register, and Drawing register. The Contractor is responsible for the safe custody of all such registers.
- 10.2 Samples of materials, including cement-concrete cubes, shall be taken jointly by the Contractor and the Junior Engineer (JE), with at least 50% taken in the presence of the Assistant Engineer (AE); if no JE is posted, the AE shall take samples jointly with the Contractor. Cost of sample materials is borne by the Contractor.
- 10.3 Field-laboratory tests shall be carried out by the Contractor's engineering staff, with all tests 100% witnessed by the JE, 50% witnessed by the AE, and at least 10% witnessed by the Executive Engineer (EE). Register entries shall be made by the Contractor's designated staff and reviewed regularly by the JE/AE/EE.
- 10.4 A pile pour card in the standard proforma shall be maintained; no pile shall be cast without this card being filled.
- 10.5 The Contractor shall submit a copy of all test registers and the Materials-at-Site Register along with each alternate Running Account Bill and the Final Bill; each MAS entry shall be 100% checked by the JE (or AE, if no JE), the MAS register checked at least twice a week by the JE and once a week by the AE, and the Cement Register reviewed by the EE at least once a month.
- 10.6 The full nomenclature of items shall be adopted in preparing the abstract of the final bill, in the measurement book, and in the bill form for the final bill.

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11. Specialized Items of Work

- 11.1 List of Specialized Items: water proofing treatment for toilets, terraces, mumty, balconies and underground/overhead water tanks; expansion/seismic joint systems; anti-termite chemical treatment; soil investigation and survey; special foundations including all types of piles; synthetic play-area surfaces; BIM services; water treatment plant; and any further items specified in Annexure-6 (pages 154-156) of the SOP of the CPWD Works Manual 2026, as amended.
- 11.2 Such items shall be executed only through associated agencies specialized in the relevant field. The Contractor shall indicate the name(s) of his associated specialized agencies, satisfying SOP No. 4/7 (page 30) of the CPWD Works Manual, within one month of award of work, for approval of the competent authority.
- 11.3 Eligibility Criteria for Specialized Agencies: the associated agency must have, in the preceding seven years (ending the day previous to the last day of bid submission), completed (a) three similar works each valued at not less than 40% of the estimated cost of the relevant component, OR (b) two similar works each valued at not less than 60%, OR (c) one similar work valued at not less than 80% of that component's estimated cost, supported by a completion certificate from an officer not below the rank of Executive Engineer. Indicative components and reference values include Water Proofing Treatment (approx. Rs. 7.49 lakhs); costs are for eligibility-calculation purposes only.
- 11.4 The Contractor shall submit documentary evidence of the specialized agency's experience (work order/contract with BOQ, TDS certificates/Form 26AS, completion certificates, etc.) to the satisfaction of the Engineer-in-Charge. Where the Engineer-in-Charge is satisfied that agencies meeting the above credentials are not available, multiple agencies may be approved, or the criteria relaxed with the approval of the NIT-approving authority; such decision shall be final and binding on the Contractor.
- 11.5 The main Contractor shall execute an MoU with each associated specialized agency and submit a copy to the EE/DDH in charge of the relevant component and to the EE in charge of the major component. Prior approval of the Engineer-in-Charge is required before changing any specialized agency during the contract; the replacement agency must satisfy the same eligibility criteria. If the main Contractor himself has satisfactorily completed similar work of the required magnitude, he may be permitted to execute the specialized work directly, subject to certifying that no other specialized agency executed such prior work on his behalf.
- 11.6 The main Contractor shall be solely and fully responsible for resolving any dispute or litigation with a specialized agency, without any time or cost overrun to the Department; no claim of hindrance, and no extension of time, shall be entertained on account of such disputes or on account of selection/rejection of specialized agencies.
- 11.7 The following items shall be executed only through the manufacturer of the item, or through their authorised applicators/installers/experienced professionals: stone cladding; structural glazing; plumbing; aluminium/uPVC work; stone/GRC/aluminium jali or powder-coated aluminium strip work; swimming pool; signage; irrigation; mechanised spray plaster; false ceiling; factory-made kitchen cabinets, wardrobes and vanities; acoustic treatment; fire-resistant doors; stainless-steel work/modular stainless-steel railing; and painting.

12. Additional Security Deposits and Performance Guarantees

- 12.1 **Waterproofing and Anti-Termite Treatment:** The Contractor shall furnish a performance guarantee (in the prescribed proforma at Annexure-B for waterproofing, and in the Engineer-in-Charge's prescribed proforma for anti-termite treatment) for a guarantee period of five years (extendable to ten years where specifically stated for a component) from the date of completion. In addition to the normal security deposit, 10% of the cost of these items shall be retained as security for performance. Defects noticed during the guarantee period shall be rectified by the Contractor within seven days of notice; failing which the Department shall get the work done through another agency at the Contractor's risk and cost. The guaranteeing firm shall inspect the treatment annually during the guarantee period and certify accordingly. The 10% security deposit may be replaced by an equivalent bank guarantee, valid for the guarantee period.
- 12.2 **Aluminium Works / uPVC Windows:** A five-year guarantee against unsound material, workmanship and defective anodising/powder-coating shall be furnished in the prescribed proforma, countersigned by the Contractor. 10% of the cost of these items shall be retained as security deposit, releasable five years after completion if performance is satisfactory (or earlier against an equivalent bank guarantee); defects during the guarantee period shall be rectified within seven days, failing which rectification shall be carried out by another agency at the Contractor's risk and cost.
- 12.3 **Water Supply and Sanitary Installations:** A ten-year guarantee shall be furnished in the prescribed proforma; 10% of the cost of these items shall be retained as security deposit, releasable after ten years if performance is satisfactory (or earlier against an equivalent bank guarantee), with the same seven-day rectification obligation as above.
- 12.4 A five-year guarantee bond (in the prescribed proforma) shall additionally be furnished for: uPVC windows/doors/ventilators, fire-resistant doors, polycarbonate sheet, expansion joints, and sanitary fittings.
- 12.5 The Contractor shall submit authenticated copies of itemised bills for mines materials and other major items along with each Running Bill, and for any other materials demanded by the Engineer-in-Charge.

13. Permissions, Clearances and Approvals

- 13.1 Earth-cutting permission and forest-clearance permission, where required for execution of the work, shall be obtained from the local administration; this is the Contractor's responsibility.
- 13.2 The Contractor shall provide and fix factory-manufactured aluminium windows conforming to CPWD specification, after inspection of the factory by the Engineer-in-Charge, at no extra cost.
- 13.3 The Contractor shall submit a fire safety certificate after completion of the project, and obtain local body/GMC approval where applicable; nothing extra shall be paid except fees payable to the Government Department/local body.
- 13.4 The Contractor shall submit final as-built drawings for all civil work.

14. Taxes and Statutory Deductions

The bidder shall abide by the rules and regulations under GST and under the Mines & Minerals Department, Government of Assam, as amended from time to time; deductions shall be made from the gross value of work done in all bills as per the provisions of the respective Acts. Nothing extra shall be paid on account of such deductions.

15. Conduct, Discipline and Identity of Workers

15.1 The Contractor shall be responsible for the behaviour and conduct of his workers; no worker with a doubtful integrity or bad record shall be engaged.

15.2 Identity cards shall be issued to workmen after proper police verification, based on a list submitted by the Contractor; the cost of photographs shall be borne by the Contractor, and identity cards shall be carried at all times while working at site.

16. Contingencies, Coordination and Presumed Risks

It is presumed that the Contractor has satisfied himself as to all possible contingencies, incidental charges, wastages, bottlenecks and acts of coordination likely to be required between different agencies during execution; nothing extra shall be payable on this account.

17. Protection of Work, Monsoon and Hindrances

17.1 The Contractor shall make all necessary arrangements, at no extra cost, for protecting work already executed and work in progress from rain, fog or extreme weather, including temporary shelters, during the monsoon; no claim for hindrance shall be entertained on this account.

17.2 Hindrances such as rain or festival bandhs shall not be considered grounds for extension of time; the Contractor is expected to study local rainfall patterns and festival calendars and deploy resources (including two shifts, where necessary) to compensate for consequent loss of time.

18. Cleanliness, Stacking and Waste at Site

18.1 The Contractor shall not stack building material, malba, muck or rubbish on land or roads belonging to the local development authority or to others. Such material shall be removed periodically to approved dumping grounds, with all necessary permissions obtained by the Contractor at his own cost; nothing extra shall be payable. Violation shall render the Contractor liable to pay stacking charges/penalties levied by the local body, recoverable from any sums due to him, including the Security Deposit and performance guarantee.

18.2 The site shall be kept clean at all times to avoid nuisance to occupants of adjacent premises. Water-logging and accumulation of wastewater/slush shall be prevented; discharge into the public drainage system requires prior permission and payment of applicable charges by the Contractor. The Contractor shall fumigate the site periodically to control mosquitoes, provide lighting and temporary ventilation in basements, and install submersible pumps with automatic on/off control in basement sumps.

18.3 The Contractor shall not wash transit-mixer drums at site, and shall prevent spread of leachate/cement slurry, keeping the site neat and clean at his own cost.

19. Inspection of Work

- 19.1 In addition to relevant contractual provisions, the work shall be open to inspection by Senior Officers of CPWD, SE (W cum TLQA) o/o ADG office ,Guwahati and representatives of the client. The Contractor shall be present, or have a duly accredited responsible representative present, to receive instructions upon reasonable notice of any such inspection visit.
- 19.2 The consultant and TPQA agency appointed by CPWD shall inspect works, including workshops and fabrication factories, to ensure execution in accordance with the design, drawings and specifications; observations shall be communicated through CPWD engineering staff, and compliance reported to CPWD.
- 19.3 Senior Officers of CPWD and dignitaries from the client authority may inspect ongoing work at any time, with or without prior intimation. The Contractor shall therefore maintain at site, at all times:
- i) A display board showing work details,
 - ii) Weekly progress against targets, reasons for shortfall, and manpower/wage status;
 - iii) A clean entrance and surrounding area;
 - iv) Layout/key plans and building drawings (plans, elevations, sections);
 - v) Up-to-date bar chart/CPM/PERT displays;
 - vi) Details of quantities executed, balances, deviations and possible extra/substituted items;
 - vii) plastic/cloth-mounted sets of building drawings; and
 - viii) a set of helmets and safety shoes for the exclusive use of visiting officers/dignitaries.

20. Structural Safety of Formwork and Temporary Works

- 20.1 Where the height of concrete casting exceeds 3.5 m, or where higher loading occurs during casting, or for spans exceeding 5 m or special structures (domes, vaults, steel structures), centring/scaffolding/staging shall be designed by a qualified and experienced person/agency, proof-checked by a similarly experienced person/agency, and approved by the Engineer-in-Charge, with reference to Clause 7 of IS: 14687.
- 20.2 A method statement for erection/dismantling of centring/scaffolding/staging, for the concreting sequence, and for anchoring of steel structures, shall be prepared by the Contractor and approved by the Engineer-in-Charge before work commences, with reference to Clause 9 of IS: 14687.
- 20.3 A formwork watcher shall be engaged during erection, concreting and dismantling to detect any movement or instability.
- 20.4 A detailed field-safety inspection programme for such structures at different stages shall be prepared and strictly followed.
- 20.5 The prime responsibility for the safety of the false work — for both concrete and structural steelwork — rests with the Contractor. Safety nets, fall-arresting systems and other safety gear for workers on these structures shall be strictly provided.

21. Prevention of Nuisance and Pollution

The Contractor shall take all necessary precautions to prevent nuisance or inconvenience to owners, tenants, occupants of adjacent properties and the public, and shall avoid damage to adjacent property or services, making good at his own cost any damage caused, to the entire satisfaction of the Engineer-in-Charge. Methodology and equipment shall be selected to minimise environmental pollution, construction time and inconvenience to road users, occupants and the public, and to prevent pollution of streams and waterways. All waste and superfluous material shall be carted away by the Contractor to the Engineer-in-Charge's satisfaction.

22. Personal Safety and Hygiene for Labour

The Contractor shall provide, at his own cost:

- i) Protective footwear and gloves for workers on cement/lime-mortar/concrete mixing and pipe/sewer-line openings;
- ii) Welders' protective eye-shields;
- iii) Safety helmets and harnesses/belts;
- iv) Adequate sanitation, drinking water and first-aid facilities;
- v) Masks and gloves as required;
- vi) Clean temporary hutments for resident workers, where permitted;
- vii) Ensure workers wear helmets and shoes at all times.
- viii) Overhead lifting of heavy material shall be avoided in favour of barrow wheels/hand-lift boxes;
- ix) Tobacco and cigarette smoking shall be prohibited on site;
- x) Machinery shall be properly guarded;
- xi) Hoists, lifts and lifting tackle shall be maintained in good condition, with safety nets to arrest falling material;
- xii) Durable, reusable formwork systems shall be used and properly maintained; walking surfaces and boards at height shall be soundly constructed with safety rails/belts;
- xiii) Fire-prevention measures, extinguishers and sand buckets shall be provided;
- xiv) Sufficient lighting shall be provided for night work;
- xv) The Contractor shall comply with the safety procedures and norms of NBC 2016, and with any COVID-19 SOPs issued by the Government of Assam/India from time to time.

23. Safety Measures, Tools and Plant at the Construction Site

- 23.1 The work site shall be properly barricaded (minimum 3.0 m height, using CGI sheeting, before commencement of work, at the Contractor's cost) with adequate, visible signage (e.g. 'Work in Progress'). Construction malba shall be regularly removed on a daily basis. Proper MS-pipe scaffolding with work platforms and easy-access ladders shall be provided, and a first-aid kit maintained at site. The Contractor bears full responsibility, and all consequent expense, for any accident occurring due to lack of safety measures, with no extra payment or Department liability arising therefrom.

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- 23.2 The Contractor shall deploy necessary tools and plant, in required numbers, at his own cost and risk, to ensure smooth and timely execution at every stage. The decision of the Engineer-in-Charge shall be final as to which item of tools and plant is used at a particular time, and the Contractor shall strictly adhere to it. The following description and quantum are indicative (not mandatory) minimum guidance; the Contractor shall submit his own list of proposed tools and plant, calibrated to project milestones, along with the programme and progress chart:

S. No.	Tools & Plant	Quantum
I.	Batch mix Plant as per IS:4925	As per requirement
II.	Steel Centering and shuttering	As per requirement
III.	Excavator cum Loader	As per requirement
IV.	Concrete mixer with hopper	As per requirement
V.	Plate Vibrator	As per requirement
VI.	Needle Vibrator	As per requirement
VII.	Bar Bending Machine	As per requirement
VIII.	Bar Cutting Machine	As per requirement
IX.	Compressor 5 cmm	As per requirement
X.	Earth compactor 2 T	As per requirement
XI.	Floor grinding machine	As per requirement
XII.	Welding machine	As per requirement
XIII.	DG Set (63 KVA) (one suitable for batching plant)	As per requirement
XIV.	Grinder, Drilling machine, etc.	As per requirement
XV.	Water Pump	As per requirement
XVI.	Chase cutter	As per requirement
XVII.	Concrete Pump	As per requirement
XVIII.	Crane suitable for height up to 30 m	As per requirement
XIX.	Transit Mixer (Miller)	As per requirement

- 23.3 To achieve the programmed progress, the Contractor must bring the required shuttering material for cement concrete and RCC work to site within 30 days from the date of start of work. All other equipment shall be brought, installed and commissioned at site at least one week before its actual planned use; workshop facilities for fabrication, addition, alteration and other allied works shall be arranged by the Contractor at his own cost.

- 23.4 Where the requirement at any stage exceeds the finalised programme, additional machinery/equipment shall be arranged by the Contractor at his own cost, including equipment for arranging concrete from RMC-producing plants; nothing extra whatsoever shall be paid on this account. All equipment, tools/plant and machinery shall be kept in good condition at all times.

24. Site Laboratory and Office Infrastructure

- 24.1 A site laboratory with the minimum equipment specified in CPWD specifications/this tender shall be established, made functional and maintained within three months of the commencement date, at no extra cost to the Department.
- 24.2 ~~Within 30 days of commencement, and until completion (including any extended period), the Contractor shall provide a semi permanent site office of not less than 50 sqm carpet area, comprising a conference room (with table and chairs), an executive chair, a drawing board, an office room for CPWD officials (table, executive chair, almirah, visitor chairs), two all in one desktop/laptop computers (i7, 16GB RAM, 1TB SSD) with printer, a common toilet, and a pantry — all rooms equipped with AC, fans, vitrified tile flooring and false ceiling. A layout plan of the site office shall be submitted for approval within 10 days of commencement. Nothing extra is payable; failure to provide the office infrastructure attracts a non-refundable penalty of Rs. 1,00,000 per month. The Contractor shall also provide helmets, gloves and leather shoes for all field staff of the Department for the duration of construction.~~

25. Environment Protection — Construction Phase and Worker Facilities

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

25.1 Construction Waste and Worker Facilities

- The Contractor shall collect all construction waste generated on site, and shall consider segregating waste based on utility, examining means of sending it to manufacturing units that use it as raw material, or to other sites requiring it (typical debris: broken bricks, steel bars, broken tiles, spilled concrete and mortar).
- The Contractor shall provide potable water and other amenities for all workers as per the contract.
- The Contractor shall provide the minimum level of sanitation and safety facilities described in the CPWD GCC — clean drinking water, latrines and urinals as per applicable provisions, at not less than 1 toilet per 30 employees per shift, provided from the start of building operations, with sewer connection made as soon as practicable. Every toilet shall shelter the occupant from view and weather, shall be maintained sanitary, with adequate disinfectant and natural/artificial illumination provided.
- The Contractor shall ensure air pollution due to dust/generators is minimised, preventing adverse effects on workers and the public, through proper screening, covering of stockpiles, covering brick and dusty-material loads, wheel-washing facility, gravel pits and water spraying, together with: clearing vegetation only from areas where work will start right away; vegetating/mulching areas not used by vehicles; applying gravel/landscaping rock where mulching/paving is impractical; upgrading unpaved site roads (surface strength, particle size/shape/mineral type, and surface gravel to limit fine particles below

0.075mm to 10-20%); water-spraying (fine mist, not wasteful) to control dust, especially on dusty materials before transfer/loading/unloading, demolition areas, unpaved haul roads and excavation/earth-moving areas; limiting on-site vehicle speed to 10 km/hr; covering all material storage against wind-blown dust; promptly cleaning up spills of dirt/dusty material and concrete slurry/liquid waste before it infiltrates soil or runs off; providing hoardings not less than 3 m high along the site boundary next to a road/public area, at his cost; providing dust screens/sheeting/netting to scaffolding along the building perimeter, at his cost; covering stockpiles of dusty material with impervious sheeting, at his cost; and covering dusty vehicle loads with impervious sheeting before they leave site, at his cost.

25.2 Recycling, Leachate and Site Staging

- The Contractor shall provide an easily accessible, dedicated area for separation, collection and storage of recyclable materials (at minimum: paper, corrugated cardboard, glass, plastics and metals), coordinated with anticipated collection services, and may employ cardboard balers, can crushers, recycling chutes and workstation collection bins to enhance the programme.
- The Contractor shall ensure that no construction leachate (e.g., cement slurry) is allowed to percolate into the ground, through reduction of wasteful curing, collection, basic filtering and reuse, and shall collect drainage run-off from construction areas and material storage sites, diverting flow away from polluted areas using temporary drainage channels/perimeter dyke-swale to the treatment device or municipal sewer line.
- Staging (dividing the construction area into two or more zones to minimise exposed soil at any given time) shall be adopted to separate undisturbed land from land disturbed by construction activity and material storage.

25.3 Worker Safety Compliance under NBC 2005 Part 7

The Contractor shall comply with the safety procedures, norms and guidelines outlined in Part 7 'Constructional Practices and Safety', 2005, National Building Code of India. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. A person qualified in first-aid shall be available at site to render and direct first-aid, with a telephone provided and hospital numbers displayed; complete reports of all accidents and action taken shall be forwarded to the competent authorities. The Contractor shall ensure, at his cost: (a) guarding of all parts of dangerous machinery; (b) precautionary signs for working on machinery; (c) hoists, lifts, lifting machines, chains, ropes and other lifting tackle maintained in good condition; (d) durable, reusable formwork systems, properly maintained; (e) walking surfaces/boards at height of sound construction, with safety rails/belts; (f) protective equipment (helmets, etc.); (g) fire-prevention measures, extinguishers and sand buckets in fire-prone and other areas; and (h) sufficient, suitable lighting for night work.

25.4 Material Storage, Waste and Spill Management

Storage of material shall follow NBC 2005 Part 7, Section 2 (Storage, Stacking and Handling), to the Engineer-in-Charge's satisfaction, minimising wastage and preventing misuse, damage, inconvenience or accident; watch-and-ward of the Contractor's materials is his own responsibility, with a proper layout plan for stacking/storage considering access and vehicle manoeuvrability at different construction stages. The Contractor shall provide adequate garbage bins around the site and workers' facilities, keep the site litter-free, and provide separate, Hindi/English-labelled bins for plastic, glass, metal, biological and paper waste. A Spill Prevention and Control Plan shall be submitted before construction begins, stating measures to stop the source of a spill, contain it, dispose of contaminated material/hazardous waste (pesticides, paints, cleaners, petroleum products), and designating trained personnel for spill prevention/control.

25.5 Recycled Content, Regional Materials and Indoor Air Quality

Where directed, the Contractor shall collect and submit material certificates for materials with high recycled (post-industrial and post-consumer) content — e.g., RMC mix with fly-ash, recycled-content glass, calcium-silicate boards. Where possible, materials/vendors shall be selected from within an 800 km radius of the site. The Contractor shall adopt an Indoor Air Quality (IAQ) management plan to protect the HVAC system during construction, control pollutant sources and interrupt contamination pathways, sequencing installation to avoid contaminating absorptive materials (insulation, carpeting, ceiling tile, gypsum wallboard) and protecting stored/installed absorptive materials from moisture damage. Prior to handover, all internal spaces shall be flushed out — doors and windows opened for 14 days — to vent toxic fumes from paints, varnishes and polishes. The Contractor shall minimise indoor air contaminants that are odorous, irritating or harmful to installers and occupants, and shall ensure paints, coatings and primers used do not exceed the applicable VOC content limits specified in the Schedule of Quantities, where such items are included.

25.6 Water Use, Debris Removal and O&M Documentation

The Contractor shall spray curing water on concrete structures without allowing free flow of water; concrete structures shall be kept covered with thick cloth/gunny bags with water sprayed on them, and water-pounding done on all sunken slabs using cement-sand mortar. All rubbish and debris generated by the works shall be removed, keeping the site clean and tidy throughout the contract period; serviceable and non-serviceable (malba) material shall be segregated and stored separately, with malba collected in well-formed heaps at safe locations. Materials likely to cause dust nuisance or environmental pollution shall be removed at the earliest and suitably covered until removed; glass and steel shall be dumped/buried separately to prevent injury. Debris removal shall be carried out during daylight, with artificial lighting provided where visibility is poor. The Contractor shall provide O&M manuals wherever applicable, and shall make himself conversant with the Site Waste Management Programme Manual, actively contributing to it by estimating the nature and volume of waste generated by the relevant process/installation.

25.7 Materials, Fixtures and Equipment — Sustainability Requirements

- The Contractor shall produce, wherever feasible, a certificate regarding the distance of the source of the relevant material.
- Unless otherwise stated, cement used for reinforced concrete, precast members, mortar, plaster and building blocks shall be PPC meeting IS 1489 (Part I) fly-ash-content requirements; the Contractor shall obtain the manufacturer's certificate of fly-ash content for each consignment batch.
- The Contractor shall comply with MoEF Notification S.O.763(E) dated 14th September 1999 on greater fly-ash utilisation; where the work falls within a 50 km radius of a Thermal Power Plant, 100% fly-ash-based bricks/blocks shall be used in construction.
- All paints, polishes, adhesives and sealants (internal and external, on any surface) shall be Low-VOC products, with the Engineer-in-Charge's prior approval obtained before application.
- All plumbing and sanitary fixtures shall meet the minimum LPM (litres per minute) and LPF (litres per flush) prescribed by the Engineer-in-Charge; the Contractor shall employ 100% zero-ODP insulation, HCFC/CFC-free HVAC and refrigeration equipment, and halon-free fire-suppression/extinguishing systems.
- The Contractor shall ensure water and electricity are not wasted during construction, correcting any wastage brought to his attention by the Engineer-in-Charge, and shall install meters/measuring devices to record monthly consumption of water, electricity and diesel for the entire project tenure.
- The Contractor shall use treated recycled water of appropriate quality for construction, if available.
- No construction debris shall be taken away from site without the Engineer-in-Charge's prior approval; once approved, the Contractor shall ensure safe disposal only at approved dumping sites, including recycling of unused chemical/hazardous waste (oil, paint, batteries, asbestos) where applicable.
- To ensure energy efficiency, all pumps, motors and engines used during or installed after construction shall be subject to the Engineer-in-Charge's approval and direction; all lighting installed around the site and at labour quarters during construction shall be CFL bulbs of appropriate illumination, unless specifically prescribed otherwise.

Failure to adhere to any of the above environmental conditions, without the Engineer-in-Charge's approval, shall be deemed a violation of contract, rendering the Contractor liable to penalty as per the terms of the agreement.

25. Variation in Consumption of Materials

Variation in consumption of materials shall be governed as per CPWD Specifications 2019, Vol. I & II (with correction slips up to date) and the applicable clauses of the contract. Specific clauses governing variation in consumption of pig lead, cement and reinforcement steel are as set out in Part III of this document (Cement and Reinforcement Steel conditions).

27. Materials-at-Site (MAS) Register — Proforma

The MAS Register shall record, at the time of supply/issue of plant and other materials: (i) details of bills/challans in respect of supply; (ii) details of transportation, including vehicle/lorry registration number; and (iii) the specific location where materials/plant are displayed, delivered or issued. The register (headed with Section/Sub-Division, Name of Work, Name of Article/Item, Estimated Requirement and Issue Rate) shall be maintained in the following proforma:

Sl. No.	Date of Receipt / Challan-Bill Details / Location / Vehicle No.	Received from / Issued to	Qty. Received	Date of Issue	Location Displayed/ Delivered/Issued	Qty. Issued	Balance Qty.	Signature (Contractor's Rep.)	Signature (EIC/AE/EE Rep.)	Remarks
1.										

28. Cooperation with Sub-Contractors and Other Agencies

The work shall be planned to ensure proper coordination between disciplines (sanitary and water supply, drainage, rainwater harvesting, electrical, fire-fighting, IT/communications, and any other services); noise shall be kept to a minimum to avoid disturbance to occupants of adjoining buildings. No claim shall be entertained on account of site constraints, non-availability of skilled/semi-skilled/unskilled labour, or non-availability of machinery spares; tenderers are advised to visit site and quote accordingly.

PART III — PARTICULAR SPECIFICATIONS OF THE WORK

1. General

- 1.1 The work shall generally be carried out in accordance with CPWD Specifications 2019, Vol. I & II (corrected up to the last date of submission of the bid), read together with the order of precedence set out in Part I, Clause 4.3 above.
- 1.2 All construction lines and layout shall be established by coordinate marking using Total Station survey, duly supported by DGPS or LiDAR technology.
- 1.3 All sanitary fixtures provided in similar areas shall be of identical make, brand and series. Only star-headed stainless-steel screws shall be used, unless otherwise specified.
- 1.4 The Contractor shall provide a wheel-washing area at the construction site at no extra cost, and shall not store or dump construction material/debris on metalled roads. Any storage area beyond the metalled road requires prior approval of the Engineer-in-Charge and must not obstruct traffic flow or endanger pedestrians.
- 1.5 **Dust and Air-Quality Control on Roads:** the Contractor shall raise wind-breakers (CGI sheet/plastic or similar) on all sides of the plot to prevent dust escaping the site; ensure vehicles carrying construction material are covered and cleaned before leaving; provide masks to workers engaged in loading/unloading/carriage of dusty material; provide medical help/investigation/treatment relating to dust-emission exposure; ensure C&D waste is transported only to designated C&D waste sites with due records; compulsorily use wet-jet methods for grinding and stone-cutting; comply with MoEF guidelines, 2010 (as amended); inspect for black-smoke-generating machinery and use cleaner fuel; ensure DG sets comply with the latest MoEF emission norms; use vehicles with a valid Pollution Under Control certificate and restrict on-site vehicle speed to 20 km/hr (using speed bumps or traffic diversion where needed); and cover construction material with tarpaulin.
- 1.6 No borewell shall be executed at site without prior Electrical Resistivity Imaging (ERI)/Vertical Electrical Sounding (VES) testing and approval of the results by the Engineer-in-Charge; nothing extra is payable on this account.
- 1.7 If required during construction to cut one or more trees, the Contractor shall obtain necessary permission from the concerned Government department; reasonable expenditure incurred in obtaining such permission may be reimbursed against submission of vouchers/bills.
- 1.8 Entry to the campus may be restricted to particular gates, and the Contractor shall follow all campus security rules at no extra cost. As the work area lies close to occupied office/residential buildings, extra precaution shall be taken during excavation and other operations.

2. Earth Work

- 2.1 Earth work shall be carried out in accordance with CPWD Specifications 2019 Vol. I & II and NBC 2016, with up-to-date correction slips.

- 2.2 Excavation shall be to the width of the footing/retaining-wall/development-work/MEP requirement, including necessary margins for construction operations, as per drawing or as directed. Where soil nature, trench depth or season does not permit vertical sides, the Contractor shall, at his own expense, provide shoring, strutting and planking, or cut slopes/steps to a safe angle, with due regard to safety; nothing extra shall be paid for such steps/slopes.
- 2.3 The Contractor shall, at his own cost, make all necessary arrangements — including pumping, dredging and bailing out water from any source (rain, floods, sewer/water-main leakage, or high sub-soil water table) — to keep the area of work sufficiently dry, using a system approved by the Engineer-in-Charge; rates for all items are deemed inclusive of such dewatering, and nothing extra is payable.
- 2.4 The sub-soil water table indicated in the soil investigation report is indicative only and may vary. The Contractor shall carry out detailed soil investigation for design purposes, make his own assessment of the likely sub-soil water level at the time of execution, and provide adequate pumping/dewatering and appropriate foundation anchoring, as required by structural design and applicable IS Codes. The sub-soil water table shall be maintained at least 50 cm below the PCC level during laying of PCC, waterproofing, and raft foundation/backfilling, and the water table shall not be allowed to rise above the base-of-raft level until the structure attains sufficient height to counter uplift pressure. The sequence of construction shall be approved by the Engineer-in-Charge, and the Contractor shall take all safety precautions (e.g., sheet-pile works) — checked by an IIT/NIT at the Contractor's cost — to avoid caving-in of adjoining slopes.
- 2.5 All necessary arrangements for slope stabilisation and temporary retaining structures (diaphragm wall, cofferdam, anchor pile, shoring/shuttering) required during excavation shall be made by the Contractor at his own cost. Major excavation shall be carried out by mechanical excavator, at no extra payment.
- 2.6 Surplus earth from excavation shall be used for compensatory plantation at a separate location, as elsewhere specified; the remaining earth shall become the Contractor's property and shall be removed from site within the scope of the agreement, only on instructions from the Engineer-in-Charge, and dumped at a designated place, with all necessary permissions from local/traffic/police authorities obtained by the Contractor at his own cost. Royalty on such surplus earth shall be borne by the Contractor at prevailing rates.
- 2.7 Dewatering falls within the scope of the contract. The Contractor shall design, install, maintain and operate the entire dewatering system (wells, trenches, pumps, etc.) through qualified and experienced personnel, in a manner that prevents seepage, boils, loss of fines, corrosion and softening of the strata, and maintains the stability of the excavation. Any damage caused by inadequacy or failure of the dewatering system shall be made good by the Contractor at his own cost.

3. Cement

- 3.1 The Contractor shall procure OPC 43-Grade cement (IS 8112:1989) or PPC (IS 1489 Part I) from reputed manufacturers on the preferred-make list, supplied in 50 kg bags bearing the manufacturer's name and ISI mark. PPC shall be used in RCC structures per Directorate General of Works Circular No. CDO/SE(RR)/Fly Ash (Main)/102 dt. 09.04.2009, and shall be treated at par with OPC for Design Mix Concrete, subject to the manufacturer's certified fly-ash percentage; no further admixing of fly ash is permitted where PPC is used.
- 3.2 Cement shall be brought to site in bulk supply of approximately 50 tonnes, or as decided by the Engineer-in-Charge. For each grade/type, cement shall be stored in two separate weatherproof, RCC godowns (one for tested, one for fresh/under-test cement) constructed by the Contractor at his own cost, each of capacity not less than 100 tonnes, with a single door and two locks (one key with the Department, one with the Contractor).
- 3.3 Cement shall be tested by/on behalf of the Engineer-in-Charge before use; the Contractor shall supply the test cement free of charge, including transportation, and shall bear all cost of testing, packing and sampling. Rejected cement shall be removed from site within a week of written order; if the Contractor fails to do so within three days of notice for damaged cement, the Engineer-in-Charge shall have it removed at the Contractor's cost.
- 3.4 Actual issue and consumption of cement shall be regulated and accounted for separately by type, as per Clause 10 of the contract, with theoretical consumption worked out under Clause 38; where actual consumption is less than theoretical consumption (including permissible variation), recovery/rejection shall apply as per the relevant Schedule provisions. Cement remaining unused shall not be removed from site without the Engineer-in-Charge's written permission.
- 3.5 A cement consumption register, in the format at Annexure-30 of the SOP for CPWD Works Manual 2024, shall be maintained at site, machine-numbered and initialled by the EE; the godown and register shall be checked by the AE/EE weekly or fortnightly (at Headquarters) or on each site visit (for works outside Headquarters).

4. Reinforcement Steel

- 4.1 The Contractor shall procure ISI-marked Corrosion-Resistant Steel (CRS)/TMT reinforcement bars conforming to IS 1786-2008, of Fe 500D grade or higher, from primary producers (SAIL, Tata Steel, RINL, Jindal Steel & Power, JSW Steel), in accordance with O.M. CSQ/SE(TAS)/Steel/2024/262-H dated 14.08.2024 (and amendments), using 'Bar Set-I' bars as classified therein (complying with IS 1786 plus additional chemical-composition, TM-ring, marking and ISO 9001/14001 requirements). Nothing extra shall be paid on this account.
- 4.2 The Contractor shall obtain and furnish to the Engineer-in-Charge the manufacturer's certificate (process of manufacture, chemical composition, mechanical test results, cast number) and original vouchers/test certificates for every consignment supplied to site.
- 4.3 Each consignment shall be tested for chemical composition and physical properties (including bend/re-bend test) at a NABL-accredited or Government laboratory; steel not conforming to specification shall be rejected and removed from site within a week of written order, at the Contractor's cost. Specimens shall be selected at random, at least one sample from each size for every 25 tonnes or part thereof, subject to the following minimum frequency for tensile/bend tests, in line with IS 1786:

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Size of Bar	Number of Tests
Up to and including 10 mm	One test each for tensile and bend test for each 25 tonnes or part thereof, for each size
Above 10 mm up to and including 16 mm	One test each for tensile and bend test for each 35 tonnes or part thereof, for each size
Above 16 mm	One test each for tensile and bend test for each 45 tonnes or part thereof, for each size

- 4.3A Tolerance on Nominal Mass: the tolerance on nominal mass of individual samples of reinforcement bars shall not deviate from the theoretical mass by more than the percentage given below, and the tolerance for the batch as a whole shall be tighter than for individual coils/samples:

Diameter (mm)	Tolerance on Nominal Mass — Individual Sample	Tolerance on Nominal Mass — Batch
Up to 10 mm	± 8%	± 5%
Above 10 mm up to 16 mm	± 6%	± 4%
Above 16 mm	± 4%	± 2%

- 4.4 The Contractor shall supply, free of charge, the steel required for testing (including transportation); the cost of tests shall be borne by the Contractor. Steel shall be stored on a brick/timber platform (30-40 cm height) to prevent distortion and corrosion, with bars of different sizes/lengths stored separately; steel remaining unused shall not be removed from site without written permission of the Engineer-in-Charge.
- 4.5 Actual issue and consumption of steel shall be regulated and accounted for as per Clause 10/38 of the contract; where consumption is less than the theoretical requirement (including permissible variation) to an extent affecting structural adequacy, the work shall be summarily rejected, otherwise recovery shall apply at the prescribed rate. No adjustment is made for excess consumption. Different grades of bars shall not be mixed within the same structural member, and changeover between grades shall occur only at defined levels/elements.
- 4.6 The Contractor shall provide approved cover blocks/spacer bars/chairs of the required shape and size (factory-made round/rectangular type) to ensure accurate positioning and correct concrete cover, and shall use couplers for splicing reinforcement bars where required.
- 4.7 A Bar Bending Schedule (BBS), prepared as per structural drawings and conforming to IS 2502, shall be submitted (two copies, including revisions) to the Engineer-in-Charge for approval before execution; the BBS shall preferably be software-prepared, with a competent person deputed at site.

- 4.8 A Materials-at-Site (MAS) Register, recording bills/challans, transportation details and specific location of receipt/issue, shall be maintained in the prescribed proforma.

5. Structural Steel (Tee, Angle, Channel, Structural Tubes, Plates and R.S. Joist)

The Contractor shall procure structural steel from primary producers on the preferred-make list; in their absence, structural steel with a valid BIS licence conforming to IS 2062-2006 may be used, with the NIT-approving authority's permission. Samples shall be tested by/on behalf of the Engineer-in-Charge; non-conforming steel shall be rejected and removed within a week at the Contractor's cost. Steel shall be stored to prevent distortion/corrosion, at no extra cost, and the cost of testing shall be borne by the Contractor. Where actual weight differs from standard weight, only the standard weight (if actual exceeds it) or the actual weight within permissible variation (if actual is less) shall be paid.

6. Reinforced Cement Concrete (RCC) Work

- 6.1 RCC work shall be executed as Design Mix Concrete, unless otherwise specified; nominal-mix RCC shall follow CPWD Specifications. Minimum M30 grade concrete shall be used in all structural elements (except pile work). Mix design shall be carried out by the Contractor, at his own cost, through IIT Guwahati, NIT Silchar, or another institute approved by the Engineer-in-charge, based on target mean strength $F_{ck} + 1.65S$ (S = standard deviation for 'Good' quality control, as per grade). Revised mix design is required on any change of source or characteristic properties of ingredients; each brand of cement used shall have its own approved design mix.
- 6.2 The Contractor shall submit the mix-design report for approval within the time given from the date of the letter of acceptance, and shall bear all costs of mix designing and testing, including laboratory charges, sample packaging, sealing and transportation. The Contractor shall install a mini laboratory at site for accelerated testing of design-mix concrete as per IS 9013; the Department reserves the right to independently sample and test production concrete.
- 6.3 Admixtures, where used, shall conform to IS 9103, with chloride content within IS 456-2000 limits. Concrete shall be handled from mixing to final placement by methods preventing segregation, loss of ingredients or contamination; where conveyed by chute, the chute shall be metal or metal-lined, restricted to 3 m unless approved otherwise; where pumped, the conduit shall be properly primed, and pumping not interrupted; concrete shall not be dropped from a height exceeding 1.5 m. Concreting shall be done only in the presence of, and after approval by, the Engineer-in-Charge's representative, and shall be carried out continuously between approved construction joints, minimised and set at right angles to the member's general direction.
- 6.4 Conditions for Ready-Mix Concrete (RMC)**
- The Contractor may use concrete from RMC plants, with the prior approval of the Engineer-in-Charge, instead of preparing it at the central batching plant at site, without extra cost, to expedite progress. Nothing extra shall be payable for procuring RMC from an external plant.

- Within 15 days of award of work, the Contractor shall submit a list of at least three reputed RMC plant companies, with details of the transit mixers and pumps to be deployed, owner/company name, location, capacity, technical establishment, past experience, and the text of the proposed MoU between the Contractor (purchaser) and the RMC plant (supplier). The Engineer-in-Charge shall approve in writing (subject to the MoU being drawn), and the Contractor shall execute the MoU with the approved RMC plant and submit it within a week of approval. No RMC purchase is permitted before completion of these formalities. Notwithstanding such approval, the Contractor remains fully responsible for the quality of concrete, including input control, transportation and placement.
- The Engineer-in-Charge reserves the right to inspect at any stage and reject concrete not meeting quality requirements. The Contractor shall draw the MoU/agreement with the RMC owner/company carefully, incorporating all terms, conditions and specifications of this tender document, including: (i) the Engineer-in-Charge's right to control ingredients, water and admixtures purchased/stored/used, including testing and declaring materials fit or unfit; (ii) calibration checks of the RMC plant; (iii) weight/quantity checks on ingredients, water and admixtures added per batch; (iv) mixing time; and (v) testing of fresh concrete, including continuous workability control and corrective action. The Engineer-in-Charge may periodically depute an authorised representative to the RMC plant; the Contractor shall ensure all necessary manpower and facilities are made available to him there.
- The RMC plant shall use a fully automatic batching plant of capacity not less than 30 cum/hr, with computerised control and print-out of all ingredient proportions.
- All relevant RMC records shall be made available to the Engineer-in-Charge or his representative, who may specify additional quality-control guidelines binding on the Contractor and the RMC plant.
- 43-grade OPC/PPC, as per the schedule of contract (conforming to relevant IS Codes) and of a brand/make/source approved by the Engineer-in-Charge, shall only be used for production of the concrete.
- RMC-produced concrete shall be accepted by the Engineer-in-Charge at site only after all mix requirements in the tender documents are satisfied.
- The item of design-mix cement concrete is inclusive of all ingredients (including admixtures, where required), labour, machinery and T&P required for the specified strength and workability; the quoted rate is net, and nothing extra is payable for changes in the quantities of concrete ingredients (cement, aggregates, admixtures) as per the approved mix design.
- RMC shall be transported to site in a transit mixer conforming to IS 5892, and supplied as per the pre-agreed schedule approved by the Engineer-in-Charge.
- All other concreting operations not specified here (mixing, slump, transportation, placing, compaction, curing) shall follow IS 456-2000, as amended.
- For design-mix RCC other than those specified above, the Contractor shall use design-mix concrete from a central batching/mixing plant at his own cost, or, with the Engineer-in-Charge's written approval, from an RMC producer; nothing extra shall be payable on this account.
- RMC quantity shall be arranged strictly as required at site, per the pre-agreed schedule; nothing extra shall be payable on this account.

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

- The item of design-mix cement concrete (whether site-produced or RMC-sourced) is inclusive of all ingredients, labour, machinery and transportation (excluding reinforcement and shuttering, which are separately measured and paid); the rate is net, with no extra payment for changes in ingredient quantities as per the approved mix design, except for extra cement quantity payable under the Schedule of Quantities.
- 6.5 Fly Ash and Fly-Ash-Blended Cement: concrete mix design and manufacture shall follow IS 456-2000 Clauses 9 and 10, with a qualified concrete technologist available during manufacture. Fly ash used shall conform to IS 3812; water/binder ratio shall be kept as low as practicable to control early carbonation, with chloride-free admixtures conforming to IS 9103 used to achieve workability where necessary. In aggressive chloride/sulphate environments, fly-ash-admixed or PPC-based concrete is recommended (fly-ash content limited to 18% by weight under excessive magnesium-sulphate exposure). Wet curing shall be for a minimum of 10 days (14 days in hot/arid regions). Fly-Ash Admixed Cement Concrete (FACC) requires a computerised blending facility (or equivalent RMC-plant facility); maximum 35% OPC substitution by mass is permitted under IS 1489 (Part I); dry fly-ash shall be stored in weatherproof bins/silos with dust-control filters.

7. Formwork for Exposed Concrete Surfaces

7.1 Centering and Shuttering

- The Contractor must have steel centering and shuttering (with pipes and props) not less than 4,000 sqm for wider use in RCC work.
- Centering/scaffolding/shuttering for casting of RCC roof slabs shall be properly designed by a qualified and experienced agency having past experience of design of heavy centering, and shall be proof-checked as per Clause 7 of IS: 14687 by a similarly experienced person/agency (such as an IIT/NIT), for issue to the Contractor by the Department for execution. Provisions of Clause 9 of IS: 14687 shall be referred for erection safety precautions and other site operations pertaining to false work (centering); D.G. O.M. F. No. 45/SE(TAS)/New Product/2019-20/262-H dated 19.06.2019 may also be referred.
- Where the drawings specifically call for original fair-face concrete finish without rendering/plastering, formwork shall use plywood on steel plates of approved quality.
- Forms shall be constructed to produce a uniform, consistent texture and pattern; horizontals shall be constructed of lumber (not panelled), with joints staggered.
- To achieve a finish free of board marks, formwork shall be faced with plywood (or equivalent) in large sheets, arranged in an approved pattern; joints shall coincide, where possible, with architectural features, sills, window heads, or changes in surface direction, and shall be vertical or horizontal unless directed otherwise, fitted so no blemish or mark is imparted to the finished surface.
- Forms for exposed surfaces shall use grade strips at horizontal construction joints (unless groove strips are specified), tightened against the concrete to avoid spreading/abrupt irregularities/mortar loss; supplementary form ties shall be used as necessary.
- For fair-faced concrete, the position of through-bolts shall be restricted as indicated on the drawings.

- Plywood/steel plates used for exposed surfaces shall be got approved by the Engineer-in-Charge on each use; no form doubtful of producing the desired texture shall be reused.
- Cement of only approved shade shall be used, preferably from a single lot, to achieve textural integrity.

7.2 Class of Surface Finish

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

For Columns/Walls/Fins: the finish shall be uniform and smooth, levelled with a screed board, power-floated and steel-trowelled under firm pressure; brush marks shall be less than 3 mm, with gradual irregularities less than 10 mm in a 2 m length.

7.3 Tolerance in Finished Concrete

Formwork shall produce finished concrete true to shape, lines, level, plumb and dimensions shown in the drawings, subject to the following tolerances (unless otherwise specified):

Item	Tolerance
Variation from plumb, up to 3 m height	± 6 mm
Variation from plumb of conspicuous liner, up to 6 m height	± 6 mm
Variation in size of wall openings	(+) 15 mm, (–) 6 mm
Variation in parapet wall thickness (up to 30 cm thickness)	± 6 mm

Slab, Beam and Girder Forms — variation from level or specified grid for beam soffit before removal of shores: in any 3 m, ± 6 mm; in any 6 m, ± 10 mm.

All the above tolerances apply to concrete dimensions only, not to positioning of vertical steel or dowels, and are for local aberration in the finished surface — not a tolerance for the setting/alignment of the entire structure/formwork. Any error within these limits, or otherwise noticed after part/full stripping of forms, shall be corrected in subsequent work to restore the structure's true line, level and alignment.

Ultrasonic Pulse Velocity (UPV) testing for RCC shall be carried out as a routine test to assess the homogeneity and uniformity of concrete, as per Technical Circular No. 18 issued vide CE(CSQ) Letter No. G-2/SE(QA)/CSQ/69 dated 12.02.2013; the fulfilling criteria and other conditions shall be as detailed in that circular.

8. AAC Block Masonry

AAC blocks shall be procured from approved manufacturers, conforming to IS 2185 Part 3 (1981), Grade I (density 551-650 kg/cum), stored on a level dry surface. Joint thickness shall not exceed 10 mm and shall be uniform; wall height built in a day shall not exceed 1.2 m (6 courses); joints shall be recessed, not flush-pointed. A PVC slip membrane (minimum 400 microns) shall be laid before the first course on the plinth beam, per the manufacturer's recommendation. Blocks shall be moistened, not soaked, before laying, with vertical joints staggered by a minimum 100 mm overlap. Two 8 mm-dia bed-joint reinforcement bars shall be placed after every third course (per item nomenclature) for lateral stability. Lintels shall rest on full blocks at either end; sill-course reinforcement at window openings shall extend at least 600 mm beyond the jamb on either side. At RCC-column interfaces, an 'L'-shaped 50x4 mm MS anchor (300 mm long, 100 mm fixed to column with two SS screws/PVC sleeves, 200 mm embedded in masonry) shall be provided at every fourth course, approved by the Engineer-in-Charge. Curing shall be by water spraying only (no flooding). Chases for electrical conduits shall be cut with an electrically operated saw (depth limited to 1/3rd of wall thickness for vertical chases, 1/6th for horizontal), and packed with 1:4 cement mortar after conduit installation. Blocks shall be cut with a carpenter's saw, not hammered. GI wire mesh shall be fixed at all column-wall and beam-wall junctions before plastering.

9. Masonry Work (Brick)

Common burnt-clay bricks of grade 7.5, laid in CM 1:6, shall be used up to plinth level; for the superstructure, AAC block masonry and common burnt-clay brick masonry shall be as per the Schedule of Quantities item. Masonry work shall follow CPWD Specifications 2019 Vol. I & II (with corrections up to bid submission); in case of any conflict between drawing detailing and this specification, this specification shall prevail.

10. Kota Stone

Every slab shall be cut to the required size, fine-chisel-dressed and table/machine-rubbed before paving, with straight, square edges free of chipping and a true, plane surface. Thickness shall be 20/25/30/40 mm as specified, with a tolerance of ± 2 mm; length/breadth tolerance shall be ± 5 mm (hand-cut) or ± 2 mm (machine-cut). No cement slurry (with or without pigment) shall be applied before polishing. Edge moulding shall be provided free of cost wherever required.

11. Wood Work

Timber samples shall be deposited with the Executive Engineer before commencement, supported by cash vouchers and kiln-seasoning/chemical-pressure-treatment certificates. Factory-made shutters shall be sourced from Chief-Engineer-approved factories conforming to IS 2202 (Part I) 1977; manufacture shall commence only after the Engineer-in-Charge's written approval of the proposed factory, with stage-wise inspection arranged by the Contractor. Shutters failing specified tests shall not be measured or paid, and shall be removed from site within 7 days of written instruction. Original purchase vouchers and delivery challans shall be produced for verification and record.

12. Marble / Granite Stone Slab Work and Tile Work

- 12.1 Where 18 mm marble is unavailable, 16 mm marble may be permitted with a 22 mm base cement-mortar bed (in place of 20 mm), at no extra payment, subject to deduction for the reduced slab thickness. Flooring pattern shall follow the architectural drawings, at no extra payment. Tile/marble/granite sizes in dado/skirting shall be as per architectural drawings.
- 12.2 For granite in counters, window sills, kitchen platforms and similar locations, the rate includes mirror-polishing of exposed edges; for granite up to 2 m for treads, risers, kitchen counters and window sills, a single stone shall be used, at no extra payment. The colour/shade of granite shall be decided by the Engineer-in-Charge; no epoxy or colour-coated granite is permitted.
- 12.3 Vitrified/ceramic tile work shall be executed per the flooring layouts and indicative specifications, conforming to relevant BIS codes and tested at approved laboratories; the Contractor shall obtain prior approval of make, size, shade and colour, with joint patterns as per architectural drawings. Vitrified floor tiles (600x600/800x800/600x1200 mm or other sizes, water absorption < 0.06%, conforming to IS 15622) shall be of approved brand and manufacturer, laid per the approved design and pattern.

13. Water Supply and Sanitary Installation

SCI/CI/PVC and GI pipes, wherever necessary, shall be fixed to RCC columns/beams with rawl plugs or approved fasteners, with protective sleeves where pipes pass through walls/concrete, at no extra payment. The Contractor shall be responsible for protecting sanitary and water-supply fittings and fixtures against pilferage and breakage during installation and until handover of the building.

14. Waterproofing Treatment

The Contractor shall associate himself with a specialized firm, approved in writing by the Engineer-in-Charge, for chemical-based waterproofing treatment on roofs etc., per manufacturer specification. A ten-year Guarantee Bond (releasable in full against an equivalent bank guarantee for ten years) shall be furnished; 10% of the cost of these items shall be retained as guarantee money, in addition to the normal security deposit. Defects during the guarantee period shall be rectified within seven days; failing which the Engineer-in-Charge shall have the work done by another agency at the Contractor's risk and cost. Before execution, the Contractor shall submit and get approved: the name of the specialised firm, trade names of the products to be used, a list of prior works where the treatment was used, and the quantity of chlorides/sulphides in the product.

15. Anti-Termite Chemical Treatment

Anti-termite treatment shall be provided against subterranean termites originating both within the plinth and from the surrounding area, executed as per CPWD Specifications. Post-constructional treatment shall use Chlorpyrifos/Lindane E.C. 20% (1% concentration), applied as specified for soil under existing floors, along external walls (with and without apron), through drilled and plugged holes/channels, as detailed in the relevant Schedule item.

16. Stainless Steel Railing / Handrails

All stainless-steel pipes and plates shall conform to AISI 304 (18/8 composition, carbon $\leq$ 0.03%). Fixing shall use approved stainless-steel expansion bolts and argon-welding, with surfaces cleaned by K2 passivation (nitric + fluoric acid treatment) to eliminate corrosion risk and weld burn marks, and coated with an Inox-type solution to prevent fingerprints and atmospheric-dust settlement. Finished parts shall be measured and paid on a weight basis, correct to the gram; the rate includes all materials, machinery, labour, cartage, lifts and applicable taxes, with any incidental additional requirement deemed included. Installation drawings require the Engineer-in-Charge's approval before work commences.

17. Aluminium Work (Doors, Windows, Ventilators, Cladding, Louvers)

- 17.1 The work shall be carried out through an approved specialist contractor, furnishing all materials, labour, accessories, tools and plant. The agency proposed for aluminium work shall be approved by the Engineer-in-Charge before commencement, with performance certificates submitted within 30 days of the acceptance letter for prior approval of the Chief Engineer.
- 17.2 The Contractor shall prepare and submit complete manufacturing/installation and shop drawings (full-size sections, metal thickness, anchoring details, hardware, connections) for approval before any manufacturing begins, and shall submit fabricated, assembled samples for approval, at his own cost.
- 17.3 Sections shall be extruded by an approved manufacturer conforming to IS designation 63400-WP with chemical composition/technical properties per IS 733 and IS 1282. Fabrication shall use mechanical joints designed for a minimum wind load of 150 kg/sqm (or as designed), with concealed, bi-metallic-action-free accessories.
- 17.4 Anodising shall conform to IS 7088/IS 1868 (minimum average thickness 15 microns, measured per IS 6012), properly sealed per IS 1868/IS 6057, with polythene-tape protection during transport, storage and installation (removed on installation); sample testing costs are borne by the Contractor.
- 17.5 Aluminium sections shall be protected with self-adhesive, non-staining PVC tape; fabricated material shall be carefully transported, examined on receipt, and any damaged pieces expeditiously replaced. Composite units shall be pre-assembled, checked for line/level/plumb, and serial-numbered before final fixing. Contact between aluminium and masonry/dissimilar metals shall be insulated with approved lacquer paint or plastic tape to prevent electro-chemical corrosion. Peripheral gaps up to 10 mm shall be sealed with a backer rod and weather-silicon sealant of an approved make, both inside and outside, to render the installation watertight.
- 17.6 Installation shall use expansion machine bolts/anchor fasteners of approved size, with holes drilled by electric drill; EPDM neoprene gaskets of approved profile/size shall be provided at all locations for air/weather tightness, with samples submitted for approval before procurement.
- 17.7 Hinges, floor springs, stays, handles, tower bolts, locks and other fittings shall be of Engineer-in-Charge-approved quality and manufacture; floor springs shall carry a company-backed 10-year functional guarantee.

- 17.8 Testing of aluminium sections shall be conducted per relevant IS Codes, with samples selected at random by the Engineer-in-Charge; the cost of samples, carriage and testing shall be borne by the Contractor. Payment shall be by actual weight, restricted to the permissible-variation weight where sectional weight exceeds the permissible limit; fixing angles, cleats, fittings and fixtures (handles, hinges, etc.) are excluded from the payable weight.
- 17.9 The aluminium work shall carry a five-year guarantee against unsound material, workmanship and defective anodising/powder-coating, in the prescribed proforma, countersigned by the Contractor; 10% of the cost of these items shall be retained as security deposit, releasable after five years (or earlier against an equivalent bank guarantee) if performance is satisfactory, with the same seven-day rectification obligation as elsewhere specified.

18. Expansion / Seismic Joints

- 18.1 Extruded aluminium modular-type expansion-joint systems shall be provided at all floor-to-floor, wall-to-wall, roof-to-roof, ceiling-to-ceiling and terrace joints, of appropriate width, conforming to ASTM B221-02 and the relevant CPWD DSR item, providing multi-directional seismic movement capacity without stressing the joint components. The system shall use a universal aluminium base member with a self-centering arrangement (circular sphere ends within the extrusion cavity) permitting movement in all directions, including vertical displacement, with a vinyl-EPDM moisture barrier (conforming to ASTM 6063) and a one-part polysulphide/silicone sealant per manufacturer specification.
- 18.2 Installation shall follow the approved drawing: joints cleaned and free of loose aggregate, edges in proper line, continuous frames on each side supporting the EPDM gasket and centre plate, fixed with stainless-steel counter-sunk screws drilled into the base concrete with a bonding agent. The Contractor shall submit specifications and a method statement in advance; execution shall proceed only after the Engineer-in-Charge's approval.
- 18.3 The Contractor shall furnish a ten-year Guarantee Bond (in the prescribed CPWD proforma), co-signed by the specialised agency and the Contractor, guaranteeing performance of the entire expansion-joint treatment. Defects during the guarantee period shall be rectified within 7 days of notice, failing which rectification shall proceed through another agency at the Contractor's risk and cost.

19. False Ceiling Work

False ceiling work shall be carried out per the approved false-ceiling layouts and schedule attached to the tender document. The Contractor shall submit a minimum of three samples of each proposed item for approval before execution. All false-ceiling work shall be executed through a specialised sub-contractor/vendor, engaged only after the Engineer-in-Charge approves the agency's work-experience credentials as per the general conditions of tender.

20. Road Work

All roads shall be cement-concrete roads, as per drawings and in accordance with CPWD and MORTH specifications.

21. Minimum Quality Assurance (QA) Plan

- 20.1 The Contractor shall submit a Quality Assurance Plan for approval, covering: the number and frequency of required tests (per Clause 11 of Schedule 'F' and applicable BIS codes); the machinery/tools and plant to be deployed, with the timeline for bringing each item to site; a site field laboratory with all required testing equipment; execution per the specifications in Clause 11 of Schedule 'F' (or, where unavailable, the relevant BIS code/manufacture's specification); and a shuttering schedule showing quantities to be brought to site.
- 20.2 The register-maintenance, sampling-witness and MAS-register obligations set out in Part II, Clause 10 above shall apply equally under this QA Plan. It shall be deemed that work so measured, checked and paid is of the required quality, standard and workmanship, meeting both the specified ingredients/functions and sound engineering practice. The precise QA Plan may vary from work to work depending on its nature and volume.

21. Mix design :

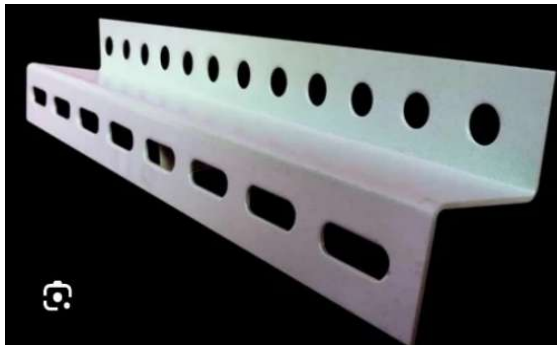
- A. The contractor shall carry out design mixes for each class of concrete meeting the requirements as per specification at his own cost.
- B. The contractor shall submit proposal of mix designs, one month in advance to commencement of concreting work.
- C. If, department will provide design mix than recovery at the rate of Rs. 50,000/- or the actual cost whichever is more, will be recovered for each design mix required.
- D. The R.C.C. work shall be done with Design Mix Concrete unless specified. In the nomenclature of items, wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. For the nominal mix in RCC, CPWD specifications shall be followed. The Design Mix concrete will be designated based on the principles given in relevant IS : Code. The contractor shall design mixes for each class of concrete indicating the concrete ingredients and proportions that will result in concrete mix meeting requirements specified. In case of use of admixture and or white cement, the mix shall be designated with these ingredients as well. The admixtures shall conform to relevant IS Code. The contractor shall not be paid anything extra for admixture required for achieving desired workability.

22. **Cover Blocks:** Contractor shall use factory made cover blocks of approved shape and strength for all RCC works to avoid displacement of bars in any direction and to ensure proper cover. Alternatively, the contractor may manufacture the cover blocks as per approved methodology by Engineering-In-Charge. The grade of concrete shall be same grade as of Concrete in which they will be used. The concrete shall be fibre reinforced concrete with 6 mm downgraded aggregate. Shape & size shall be as decided by Engineering-In-Charge. For horizontal surfaces, fibre concrete cover blocks may be used and vertical surfaces plastic circular spacers may be used. Viz; Conbextra as manufactured by M/S Fosroc Chemicals India Ltd. or as approved by Engineering-In-Charge equivalent.

Before taking up the work, the contractor shall prepare integrated plan, drawings for various civil and electrical services under the scope of his contract showing details of fixing various pipe lines running horizontally and vertically and obtain approval of Engineer in Charge. Integrated services drawings shall conform to local Byelaws. The work shall be carried out as per approved integrated shop drawings for plumbing, sanitary, rain water pipe and drainage work.

23. G.I. pipes, CPVC Pipes etc. shall be fixed on wall (Z clamps -A, or U clamp-B) with GI frame Minimum thickness 2.5 mm , keeping pipes at least 30-40 mm away from wall using U-bolt of required size as per dimension of pipes . Nothing extra shall be paid for this account.

Sample photos are as below:






 भारत सरकार
 केंद्रीय लोकनिर्माणविभाग
 तकनीकीअनुप्रयोग एवंमानक एकाई
 कमरा सं० 418 ए-विंग, निर्माणभवन, नईदिल्ली।
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E-9156762

No. CSQ/SE(TAS)/Steel/2024/ 262-80

Dated: 14/08/2024

OFFICE MEMORANDUM

Subject:- Guidelines for use of TMT steel /Low Alloy Steel reinforcement Bars in CPWD works and enlistment of the steel manufactures in respect of TMT steel /Low Alloy Steel reinforcement Bars in CPWD.

1. The Ministry of Steel, through notification dated 12.05.2016 and order dated 9.8.2016, abolished classification of steel producers as Integrated steel producers, primary steel producers, secondary steel producers, main producers, major producers or others as well as on the basis of process route of steel manufacturing in India.
2. The Ministry of Steel, vide Circular No. 4(13)/2016-SD(I) dated 14.12.2016, reiterated their Notification dated 12.05.2016. They further issued an order dated 09.08.2016, asking the users to ascertain the quality of the steel products, to be procured, as per relevant BIS standards.
3. Para 27.2 of Works Manual 2014 was modified through OM No. DG/MAN/382 dated 06.02.2019. In this OM, under the heading "Special Condition of Steel reinforcement bars", eligibility criteria and other technical parameters were set for steel manufactures. In the eligibility criteria, incorporation details of the company, various licences, certifications, in house testing facility at plant, and refining technologies used for manufacturing of steel and TMT bars (like BF-BOF route, COREX-BOF Route, DRI-EAF route) were cited. Those manufacturers, who met the aforesaid eligibility criteria, could be included in the preferred make list of Notice Inviting Tenders (NITs) of CPWD works.
4. However, CPWD Works Manual 2014 was replaced by CPWD Works Manual 2019 and came into force with effect from 07.03.2019. In CPWD Works manual 2019, para 4.10.1 deals with use of steel and cement in works and states that "Special conditions shall be incorporated by the NIT approving authority keeping in view the guidelines issued by the Directorate from time to time in this regard which are available on CPWD website".
5. Since no Criteria /guidelines were available for approval of TMT bars manufacturer after release of the CPWD works manual 2019, an Office Memorandum No. CE(CSQ /SE(TAS) /EE(TAD) /Steel/ 2019/ 497-H dated 27.12.2019 was issued. This OM specified that (i) only ISI marked TMT bars of various grades shall be procured for use in CPWD works, (ii) SDG/ADG shall approve the steel manufacturers based on eligibility criteria and other technical parameters as per OM No. DG/MAN/382 dated 06.02.2019
6. The OM 497-H dated 27.12.2019 was withdrawn and modified guidelines for use of reinforcement bars in structures was issued vide OM No. 50-H dated 17.02.2021. The use of corrosion resistant steel (CRS) reinforcement bars in structures was also mandated vide OM No. 50-H dated 17.02.2021. Further,

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clarification regarding corrosion resistant steel was issued vide OM No. 257-H dated 23.06.2022.

7. The single bench of Hon'ble High Court at Calcutta in the case of SRMB Srijan Private Limited & others V/s Union Of India & Others (W.P.A 9990 of 2020) SRMB Srijan Private Limited & others Vs. Union of India & others With (W.P.A 24267 of 2019) has quashed the modified Clause 27.2 of the CPWD Works Manual of 2014, para 4.10.1 of the CPWD Works Manual of 2019, and consequential Memorandums issued by the CPWD and directed to implement the Notification of the Ministry of Steel, Government of India dated May 12, 2016, the Order dated August 9, 2016 and the reminders of the said Ministry dated December 14, 2016 and February 7, 2017.
8. Subsequently an appeal was filed in Division Bench (DB) of Hon'ble High court at Calcutta by CPWD. In the said case, Hon'ble High court at Calcutta, passed the judgment dated 15.04.2024. The operative part of this judgement reads as *"Accordingly we find no grounds to interfere with the order passed by the Learned single bench except with regard to the direction issued in paragraph 53 of the impugned order whereby the modified clause 27.2 of the CPWD Works Manual has been quashed and instead of quashing the said modified clause 27.2 we direct the CPWD to appropriately amend their Works Manual to be in consonance with the notification issued by the Ministry of Steel, Govt. of India as done by the notifications referred to above."*
9. In compliance of the above directions of the Hon'ble High Court at Calcutta, an Expert Committee was constituted by DG CPWD vide OM No. CSQ/SE(TAS)/EE(TAD)/Steel/2024/190-H dated 10.06.2024 for deciding the criteria for the selection of steel manufacturers for CPWD works. The expert committee has conveyed their final recommendation {enclosed as annexure I(d)} vide Minutes of Meeting dated 24th July 2024 and the same has been accepted by DG, CPWD. The brief of these recommendations are as follows:

Steel Bars shall be classified as:

- a) Bar Set I, if it complies with the requirements given in the latest version of IS 1786, and additional requirement (e.g. Chemical Composition Requirement for Manganese and Copper, Tempered Martensite (TM) Ring Requirement, Marking Requirement and compliance of the provisions of ISO 9001:2015 and ISO 14001:2004) mentioned in the recommendations.

And

- (b) Bar Set II, if it complies with the requirements given in the latest version of IS 1786.

The committee has also recommended use of above mentioned Steel Bar sets considering the importance of quality in construction of public structures in different projects of CPWD, on the basis of (a) earth quake zones, (b) environment conditions (coastline and exposure condition), (c) Structure category, and (d) heights of buildings and structures.

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10. Accordingly, it is decided that the reinforcement steel bars produced by plants of SAIL, RINL, TATA, JSW & JSPL which are in wider use in CPWD may be continued to be used as preferred make in the NIT in respect of Bar Set-I mentioned in para no. 9 above and Annexure-1(c). Further, it has also been decided that DG, CPWD may enlist more manufacturer plants for TMT steel/Low Alloy Steel reinforcement Bars on the basis of selection criteria recommended by the Expert Committee. These enlisted manufacturers plants for particular bar set may also be considered for stipulation as preferred make in the NIT depending upon their use.
11. The procedure for enlistment of the steel manufactures in respect of TMT steel /Low Alloy Steel reinforcement Bars in CPWD works is also enclosed herewith as Annexure-I and I (a) to I (f)

This issues with the approval of DG, CPWD.

Encl: As above


(Dinesh Kumar Ujjainia)
Superintending Engineer (TAS)
14/12/24

Copy to (Through CPWD Website):

The SDG (Chennai) / SDG (Chandigarh) / SDG (Kolkata) / SDG (Mumbai) for information please.

14

Annexure-I

PROCEDURE FOR ENLISTMENT OF THE STEEL MANUFACTURES IN RESPECT OF TMT STEEL / LOW ALLOY STEEL REINFORCEMENT BARS IN CPWD WORKS.

1. The following procedure shall be adopted for enlistment of the manufacturers, in respect of TMT steel / Low Alloy steel reinforcement bars of different diameter and grades for use in CPWD works.
 - i. All manufacturers having their manufacturing plants in India are eligible for enlistment in CPWD subject to the condition that they are producing steel bars of different grades conforming to the latest version of IS 1786.
 - ii. The Thermo Mechanically Treated (TMT) steel / Low Alloy steel reinforcement bars conforming to IS:1786 must be manufactured using iron ore, virgin or processed with necessary refining facilities. The rolling / processing facilities, from iron making to finished steel reinforcement bar, may be owned by the same company or its subsidiary company (ies). In this regard the necessary proof may be submitted along with application.
 - iii. The eligible manufacturer shall apply **online** to CPWD website portal to **SDG (Chennai, Chandigarh, Kolkata, & Mumbai)** on their letter head along with requisite details in prescribed application (**as per Annexure-I(a)**) along with documents (**as per Annexure-I (b)**). The manufacturer shall mention name and location of plants to be enlisted for supply of steel reinforcement bar and shall pay enlistment fee of Rs. 1,00,000.00 (Rs. One Lac Only) per plant. The manufacturer is required to pay total enlistment fees to CPWD through e-payment in **Account Number 244189- AE(Cash), CSQ, NirmanBhawan, New Delhias per Annexure-I (f)** and receipts of payment shall be enclosed with the application form.
 - iv. The enlistment fee, once paid, is non-refundable due to any reason. Therefore, manufacturers are advised to ensure that they fulfil the eligibility requirements and possess all necessary documents for enlistment before payment.
 - v. The online application submitted along with documents will be scrutinized by the **CE (Works & TLQA) O/oSDG (Chennai,**



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Chandigarh, Kolkata, & Mumbai) and shortcoming (s) or deficiency (ies) in the submitted application, if any, will be communicated to the applicants through online portal. The applicants will be allowed to submit clarifications or information online within a period of one month from the date of intimation of shortcomings.

- vi. If the manufacturer fails to submit the required clarifications or information within one month from the date of intimation of shortcomings, the application shall be summarily rejected and no further communication shall be entertained. The enlistment fees shall be forfeited.
- vii. All the relevant clarifications and/or information received within the time period shall be considered and if found in order, such manufacturer shall be informed about the dates of plant (s) visit by the team of CPWD officers consisting of **one SE, one EE and one AE (to be nominated by respective SDG)**.
- viii. On site verification of documents, submitted at the time of application, will be done by the CPWD team, during the plant(s) visit. Further, the testing of individual bars of particular grade (s), at each plant, shall be carried out in the lab available at plant in presence of CPWD team and representative of manufacturer **(as per Annexure-I(c))**. The entire testing process shall also be video recorded.
- ix. CPWD team, at each plant, shall also collect the samples (i.e. one sample consist of three bars) of each diameter of different grades and sealed in presence of manufacturer's representative. The type testing of these samples shall be done in one of the designated lab of National Test House, IITs, NITs and NCCBM in presence of CPWD representatives. The dates of testing of samples in the designated laboratory shall be decided by the manufacturer in consultation with the lab authorities and CPWD team. The entire testing process, including opening of sealed samples, shall be video recorded.
- x. After plant visit by the CPWD team, a report along with photographs / video of the plants and results of the tests conducted during visit shall be uploaded on the portal within 5 working days.
- xi. The results of the type tests, conducted in the designated lab, shall be uploaded on the portal within 5 working days of receipt of the same.

xii. After getting all the test reports, complete case along with documents and recommendation of respective SDG (**Chennai, Chandigarh, Kolkata, & Mumbai**) will be sent to CE, CSQ (Civil), CPWD, Nirman Bhawan, New Delhi.

2. A committee comprising of following officers will evaluate the case received from SDG (**Chennai, Chandigarh, Kolkata, & Mumbai**) for the enlistment of steel manufactures' plant for reinforcement bar of different grades on the basis of criteria given in **annexure-I(d)** in CPWD Directorate, Nirman Bhawan, New Delhi.

ADG (Tech)	-	Chairman
CE (Project)	-	Member (to be nominated by ADG (Tech))
CE, CSQ (Civil)	-	Member
SE (Design)	-	Member (to be nominated by ADG (Tech))
SE (TAS)	-	Member Secretary

The committee will recommend the steel manufacturers' plant for enlistment or otherwise to DG, CPWD for his approval.

3. The approval of the competent authority shall be intimated to the respective manufacturer in respect of a particular plant for each diameter of different grades of steel under category Bar Set I / Bar Set-II
4. If, no bar diameter of specific grade of steel of the particular plant of a manufacturer is found suitable, then he will be intimated accordingly. The manufacturer may apply afresh next time when applications are re-invited for enlistment. In case of rejection of application, the decision of the CPWD shall be final and binding on the applicants.
5. **Validity of Enlistment:** The enlistment of manufacturer's plant for particular bar diameter and grade of steel shall be valid for a period of 3 (three) years from the date of issue of enlistment order. The enlistment shall be open to review by the enlisting authority i.e. Director General, CPWD at any time. In case any adverse report is received against the manufacturer, the enlistment is liable to be suspended/cancelled/or manufacturer can be black listed for future enlistment in CPWD or any other action as deemed fit (as per **Annexure-I(e)**).



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Annexure-I(a)

Application for Enlistment OF THE STEEL MANUFACTURES IN RESPECT OF
TMT STEEL / LOW ALLOY STEEL REINFORCEMENT BARS and re-enlistment
(Supporting documents annexed with the application form should be uploaded
as per Annexure-I(b))

1. (a) Name of the applicant
- (b) Status of entity (Limited Liability Partnership/Ltd. Company).....

2. Address

- (a) Registered Office.....
- (b) Head Office (if different from Registered office).....

3 Contact Details

- (a) Name of contact person and Designation.....
- (b) Telephone Number.....
- (c) Mobile Number
- (d) Email Id.....
- (e) Website URL (If any)

4 Detail of Plant (s) for which Enlistment applied:

- i. (a) Name of Plant.....
- (b) Location.....
- ii. (a) Name of Plant.....
- (b) Location.....

5. Enlistment fee(s) detail (Fees Rs. 1,00,000.00 per Plant) :

- (a) Transactions Reference Number
- (b) Transaction Date.....
- (c) Amount.....

6. Certificates (Strike out whichever is not applicable)

- a. I/We (including all partners) certify that I/we have read the Rules for
Enlistment of steel manufacturer in CPWD as amended upto date and shall
abide by them.



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- b. I/We certify that I/we are not enlisted and will not get myself / ourselves registered as steel manufacturer in the Department under more than one name.
- c. I/We have neither employed nor shall we employ any person within one year of his retirement from the Government except with the prior permission of the Government.
- d. I/We will not make changes in the owner ship of the company without prior intimation to department.
- e. I/We have not declared or is in the process of being declared bankrupt, insolvent, wound up, dissolved or partitioned.
- f. I/We have not been removed/suspended/blacklisted/debarred/restrained from the business by any central /state government department/PSUs.

I/We certify that the information given above is true to the best of my/our knowledge. I/We understand that if any information is found incorrect, our enlistment is liable to be cancelled and I may be blacklisted / suspended / debarred for future enlistment in CPWD.

Place :

Signature of applicant

Date:

(Authorized Signatory)



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Annexure-I (b)**A. Documents required to be submitted with application:**

1. Documents regarding Ownership / Promoters of the manufacturing plant, its head office address, location and address of steel manufacturing facility.
2. If any subsidiary company(ies) exists, then documents regarding Ownership / Promoter ship of the subsidiary company, Subsidiary company's address and its relation with main company, location and address of manufacturing units of subsidiary company.
3. Copies of Certificate of Incorporation & Memorandum of Article of Association of Main Company.
4. Approval/ enlistment of manufacturer company by CPWD (in past), or any other Central/State Government departments/PSUs for use of steel reinforcement bars.
5. Document and Production process flow diagram / chart of steel making for production of TMT and Low alloy steel (Corrosion Resistant Steel) Reinforcement bars for Fe 415D, Fe 500D, and Fe 550D of bar sizes 8 mm to 45 mm dia.
6. Document related to Quality Assurance Plan adopted in manufacturing of steel and calibration record of measuring and testing equipments.
7. Authenticated copies of BIS certificate for billets (IS 2830 : 2012) & BIS certificate for TMT bars (IS 1786 :2008) (with up to date Amendment)
8. Copy of ISO-9001:2008 (Quality Management System), Quality Management System, ISO-14001:2004 (Environment Management System).
9. The CO2 emission per kg of steel production.
10. Whether manufacturer is blacklisted/suspended/debarred/restrained from business by any Central / State Government Department or PSU for poor quality of reinforcement steel bar (if any) supplied by the company.
11. Test results of bars as per Annexure-I(c).



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Annexure- I(c)

Testing requirement for individual reinforcement bar diameter of Particular Grade of steel:

Tests required for Fe 415D, Fe500D, Fe550D grade of steel and Low alloy steel reinforcement bars:

A. FOR BAR SET- I

1. Tests as per IS 1786 (latest version) and specified therein

1.1 Chemical Properties

Ladle analysis of steel for above grades for maximum percentage of constituents

- i. Carbon (C), (ii) Sulphur (S) and (iii) Phosphorous (P) and (iv) Nitrogen and Carbon Equivalent

1.2 Physical Properties

- (i) 0.2 percent proof stress / yield stress, minimum, N/mm².
- (ii) Ratio of Tensile Strength (Ts) to Actual Yield Strength (or 0.2 % of yield stress (Ys)) of the test piece N/mm².
- (iii) Elongation, percent, Minimum, on gauge length $5.65\sqrt{A}$, where A is the cross-sectional area of the test piece.
- (iv) Total elongation at maximum force, percentage, minimum on gauge length $5.65\sqrt{A}$, where A is the cross-sectional area of the test piece.
- (v) Bend test and re-bend test.
- (vi) The mean area of ribs (in mm²) per unit length (in mm) above the core of the bar, projected on a plane normal to the axis of the bar.
- (vii) Pull-out testing in accordance with IS 2770 (Part 1)

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2. Additional requirement

2.1 Permissible limit for Manganese and Copper as follows:

Constituent	Permissible Limit (% of cast metal quantity)		
	Fe 415 D	Fe 500 D	Fe 550 D
Manganese (Mn)			
Maximum	1.60	1.60	1.60
Copper (Cu)			
Maximum	0.80	0.80	0.80
Minimum	0.20	0.20	0.20
Notes: The above composition shall be obtained as per latest version of IS 228 1. Manganese using Periodate Spectrophotometric Method (Part 12), and 2. Copper using Thiosulphate Iodide Method (Part 15) or Spectrophotometric (Diethyl Dithiocarbonate) Method (Part 21)			

2.2 Tempered Martensite Ring Test as per Annexure-I (d).

2.3 The process of manufacturing steel shall comply with the provisions of ISO9001: 2015 and ISO14001: 2004.

(B)FOR BAR SET-II

1. The test requirements given in para 1.1 and 1.2 above.



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Annexure-I(d)

1. CRITERIA FOR CLASSIFICATION OF BARS

The steel bars manufactured in India shall be classified as specified hereunder for the purposes of their use in works of CPWD.

1.1 Process of Classification

Steel Bars shall be classified as *Bar Set I* and *Bar Set II*. The bars shall be placed under one of these categories based on *Type Test* (the test performed to select the bars) performed as specified hereunder. These tests to be performed are those specified in the latest version of **IS 1786** published by the Bureau of Indian Standards, and the additional tests mentioned in Para 2 of this document.

The *Type Test* shall be performed at any one of the National Test Houses, IITs, NITs, and NCCBM, subject to:

- (a) The test samples being collected from the manufacturing facility by the representative engineer of CPWD,
- (b) The availability of the required test facility at the said laboratory, and
- (c) The test being witnessed by representative engineer of CPWD.

1.2 Classification of Steel Bars

The bar shall be classified as:

- (1) *Bar Set I*, if it complies with the requirements given in the latest version of **IS: 1786**, and those given in Para 2 of this document, and
- (2) *Bar Set II*, if it complies with the requirements given in the latest version of **IS 1786**.

2. ADDITIONAL REQUIREMENTS

Four additional requirements as specified hereunder.

2.1 Chemical Composition Requirement

The permissible limits of additional elements shall be as per **Table 1**.

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Table 1: Permissible limits of additional elements

Constituent	Permissible Limit (% of cast metal quantity)		
	Fe 415 D	Fe 500 D	Fe 550 D
Manganese (Mn)			
Maximum	1.60	1.60	1.60
Copper (Cu)			
Maximum	0.80	0.80	0.80
Minimum	0.20	0.20	0.20
Notes: The above composition shall be obtained as per latest version of IS 228 : (1) Manganese using Periodate Spectrophotometric Method (Part 12), and (2) Copper using Thiosulphate Iodide Method (Part 15) or Spectrophotometric (Diethyl Dithiocarbonate) Method (Part 21).			

2.2 TM Ring Requirement

The following two requirements shall be met with:

- (1) Does the *Tempered Martensite(TM) Ring* satisfy the visual analysis as per **Step 1** of **Table 2**; and
- (2) The thickness of the TM Ring obtained as per **Step 2** of **Table 2** shall be between $0.07f$ and $0.15f$, where f is the *original nominal diameter* of the bar.

(a) Test Procedure

The following is the procedure:

- (1) The test setup to capture the *Cross-Sectional Phase Distribution (CSPD)* of the TMT bars shall be as shown in **Figure 1**.
- (2) Steel bars may be cut using handsaw or an abrasive cutter with continuous supply of coolant to limit the temperature of steel, and thereby avoid any transition or changes in *Tempered Martensite(TM)* and *Ferrite-Pearlite (FP)* phases (**Figure 2**). The sharp edges of cut bars should be smoothened using

silicon carbide abrasive sheets. A metal polishing machine can be used to achieve effective smoothening.

- (3) The smoothened steel specimen shall be moulded in cold setting epoxy with good surface finish. Setting time of epoxy is about 10-15 minutes.
- (4) The moulded specimen surface shall be course polished using abrasive sheets of 80, 150, 220, 320, and 600 grit sizes in sequence. Specimens shall be micro-etched using Nital (5% Nitric acid in alcohol) to capture the CSPD.

(b) Measurements

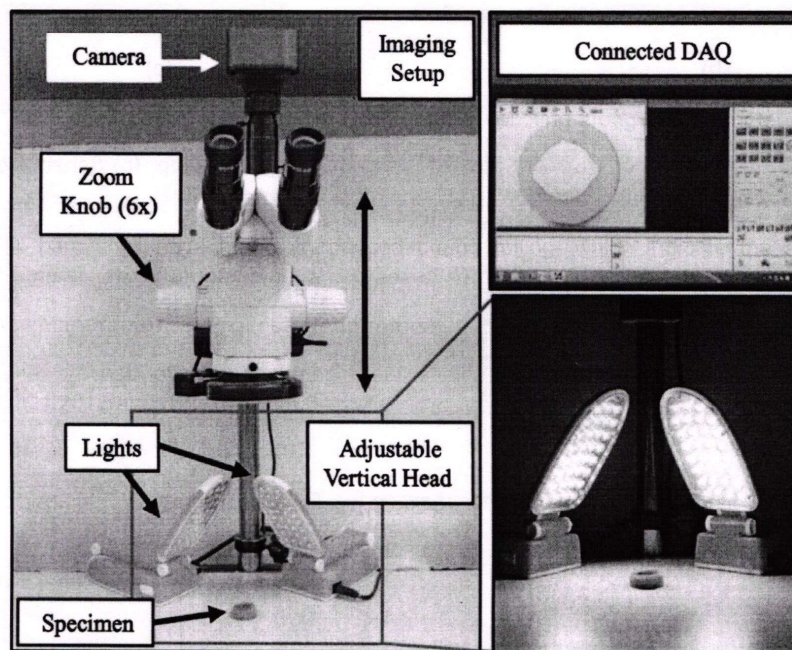
The procedure for obtaining the *CSPD* of the TM Ring along the perimeter shall be as per **Table 2**.

2.3 Marking Requirement

All bars shall have marks introduced during rolling, which indicate the *name of manufacturer or brand name*, and *grade of steel*.

2.4 Manufacturing Process Requirement

The process of manufacturing steel shall comply with the provisions of ISO 9001:2015 and ISO 14001:2004.



(a)



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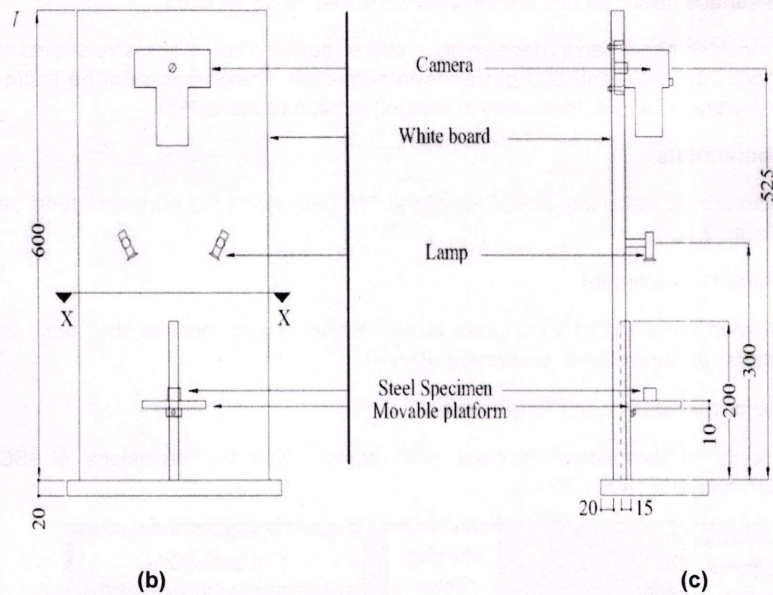


Figure 1: Test setup for CSPD of the TMT bars: (a) Imaging Setup, (b) Schematic Front View (c) Schematic Side View

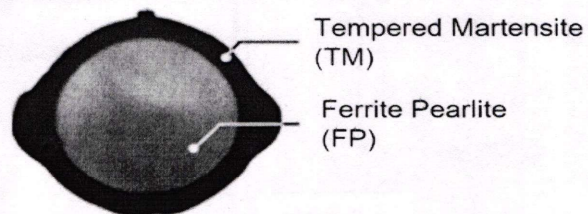


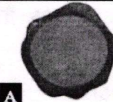
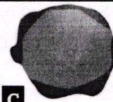
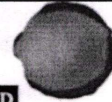
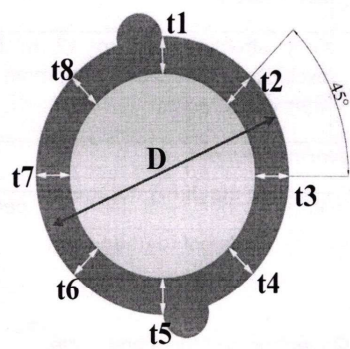
Figure 2: Cross-section of the steel bar showing the TM and FP areas

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Table 2: Method of obtaining CSPD of TM Ring

Step 1: Visual Analysis of etched Cross-Section			
			
Acceptable	Not acceptable	Not acceptable	Not acceptable
1. Is a dark grey peripheral region and light grey core seen as in Case A?			Yes/No
2. Does the dark grey peripheral region form a continuous outer ring?			Yes/No
Step 2: Dimension Analysis of TM-Ring thickness			
3. Diameter D (mm) of the steel bar			
			t_1
			t_2
			t_3
			t_4
			t_5
			t_6
			t_7
			t_8
			Measured t_{min} (mm)
			Measured t_{max} (mm)
5. Is the measured $t_{min} \geq 0.07 f$?			Yes / No
Is the measured $t_{max} < 0.15 f$?			Yes / No

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3. GUIDELINES FOR USE OF STEEL BARS IN DIFFERENT PROJECTS

Considering the importance of quality in construction of public structures, the basis for use of bars in different projects of CPWD shall be as given in **Table 3**.

Table 3: Use of Bar Sets I and II in CPWD Projects

S.No.	Consideration	Bar Set I	Bar Set II
1.	Earthquake Zones	All zones	Only <i>Earthquake Zone II</i>
2.	Environment Conditions		
	(a) Coastline	All conditions	Beyond 10 km from the coastline of India
	(b) Exposure Conditions	All exposure conditions as per IS 456 (latest version)	Only <i>Mild</i> and <i>Moderate</i> Exposure Conditions as per IS 456 (latest version)
3.	Structure Category	All categories	Only <i>Normal Buildings</i> as per Table 4 and standalone <i>Normal Structures</i> as per Table 5 .
4.	Heights of Buildings and Structures	All heights	Only structures up to 12 m height excluding <i>staircase headroom</i> and <i>liftmachine rooms</i>

Table 4: List of Normal Buildings

Residential or Non-Residential Buildings with occupancy less than 100 persons, *excluding*:

- (1) Educational buildings,
- (2) Buildings of strategic importance,
- (3) Buildings and structures identified by Government of India and State Governments to be critical for governance or Disaster Management,
- (4) Hospital buildings,
- (5) Buildings that house the control or operations of utilities (for example, water, power, and sewage disposal), and lifeline (for example, communication and transportation facilities) structures,
- (6) Buildings related to defense and space applications,
- (7) Buildings identified by Government of India, State Governments and UT Administrations to be of *Special Importance*, and
- (8) Any other building identified with the approval of DG, CPWD.

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Table:5 List of Standalone Normal Structures

Water Tanks and Water Sumps up to 50,000 liters, and Pump Rooms of area less than 20 m ²
Septic Tanks, Sewage Treatment Plants, and Effluent Treatment Plants up to 10,000 liters/day
Bridges and Culverts of spans up to 6 m
Earth Retaining Structures up to 4 m
Compound Walls, Entry Gates, and Small Reception Rooms
Storm Water Drains
Cable Trenches
Parking Structures of single storey
Security Cabins and Sentry Post
Any other structure identified with the approval of Technical Sanctioning Authority of CPWD

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Annexure-I(e)**Grounds for Removal/ Suspension/ Blacklisting/ Debarring of manufacturer from CPWD**

1. The manufacturer may be removed/suspended/blacklisted/debarred, if any of the following is established:
 - i. If found to have given false particulars at the time of Application; or
 - ii. Has indulged in any type of forgery or falsification of records; or
 - iii. Changes in the owner ship of the company without prior intimation to department.
 - iv. Declared or is in the process of being declared bankrupt, insolvent, wound up, dissolved or partitioned or
 - v. Violates the labour rules and regulations or
 - vi. Is involved in complaints of serious nature received from any source which have been proved; or
 - vii. Ceases to fulfil eligibility criteria based on which manufacturer's name was approved; or
 - viii. Is considered as not required to be in list of CPWD enlisted manufacturer for any other reason considered fit by the enlisting authority; or
 - ix. Received reports from field units of CPWD for supply of sub-standard quality of steel in more than one occasion; or
 - x. Has been removed/suspended/blacklisted/debarred/restrained from the business by any central /state government department/PSUs.

2. Whenever, any type of complaint mentioned above at serial number (i) to x), is received against a manufacturer. The manufacturer will be served with suitable show cause notice to give reply within a period of 15 days. After considering the reply/non-reply of the Show cause notice and other facts on records, further action will be taken as deemed fit. In case of Removal/ Suspension/ Blacklisting/ Debarring of the manufacturer, the minimum period will not be less than three years from the date of issue of the order. The re-application/application already under consideration for fresh enlistment of such manufacturer shall not be processed till the period of Removal/ Suspension/ Blacklisting/ Debarring is over. The manufacturer has to apply afresh for enlistment after period of Removal/ Suspension/ Blacklisting/ Debarring is over.



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Annexure-I (f)

Procedure for online payment of enlistment fee

1. Log on to home page of NTR portal on <https://bharatkosh.gov.in>.
2. Go to "Quick Payment" link on the home page.
3. Select the Ministry/Department "030-Housing and Urban Affairs" from the drop-down menu.
4. Select the purpose as "Enlistment fee from contractor" from the drop-down menu.
5. Click NEXT and Select the DDO as " 244189-AE(CASH),CSQ, NIRMAN BHAWAN, NEW DELHI" from the drop-down menu.
6. Enter the amount of enlistment fee(s) in the amount window.
7. Under Remarks write "enlistment fee for enlistment of steel manufacturer for the plants (i)...., (ii)...,(iii)...., ".
8. After filling all the mandatory fields in "Depositor's detail", click" Next".
9. Confirm the information entered in the preview and click the "Confirm" button.
10. After confirmation, the portal will open the Payment Gateway.
11. Make payment using the Payment Gateway and download the system generated electronic receipt.





No. CSQ/SE(TAS)/Steel/2024/ 264-H

Dated: 21/08/2024

OFFICE MEMORANDUM

Sub: Advisory regarding Special Condition of use of Steel reinforcement in NITs.

As per CPWD Works Manual 2024 para 4.10.1, the NIT approving authority shall incorporate the special conditions of use of steel reinforcement on the basis of guidelines issued by the Directorate from time to time in this regard.

The Directorate has issued the "Guidelines for use of TMT steel /Low Alloy Steel reinforcement Bars in CPWD works and enlistment of the steel manufactures in respect of TMT steel/Low Alloy Steel reinforcement Bars in CPWD" vide OM No. CSQ/SE(TAS)/Steel/2024/262-H Dated: 14/08/2024. This Office Memorandum has superseded all the earlier Office Memorandums, regarding use and special/additional/particular conditions of reinforcement bars in NITs.

All the field officers are directed to incorporate the special/additional/particular conditions in NITs on the basis of guidelines issued vide Office Memorandum dated 14/08/2024.

It may be ensured that above instruction are followed strictly.

This issues with the approval of DG, CPWD.

(Dinesh Kumar Ujjainia)
Superintending Engineer (TAS)

Copy to: (Through CPWD Website)

1. Special DG (Chennai, Chandigarh, Kolkata & Mumbai) for information please.
2. Additional DG (RD, PRD, Border, Lucknow, Chandigarh, Bangalore, Patna, Mumbai, Kochi, Jammu, Hyderabad, Guwahati & Bhopal for information please.
3. All CE/SE/EE/AE i.e. NIT Approving Authorities for necessary compliance.

(Govind Hari)
Executive Engineer (TAS)

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/Construction 2023/20
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

VIDYUT BHAWAN, NEW DELHI

Dated: 27.02.2026

Subject: Modifications in General Rules & Directions, Clause 1 and Schedule E of GCC 2023 Construction Works

The following modifications are made in the General Rules & Directions, Clause 1 and Schedule E of GCC 2023 Construction Works.

Existing provision	Modified provision
General Rules & Directions 11 (i) The Contractor whose tender 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.	General Rules & Directions 11 (i) The Contractor whose tender is accepted, will be required to furnish performance guarantee as mentioned in Schedule 'E' and within the period specified in Schedule F.
Clause 1 Performance Guarantee (i) The contractor shall submit an irrevocable Performance Guarantee at specified percentage of the tendered amount as mentioned in Schedule 'E', in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance.	Clause 1 Performance Guarantee (i) The contractor shall submit an irrevocable Performance Guarantee as mentioned in Schedule 'E', in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance.
Sl. No. (ii) to (v)	No change
SCHEDULE 'E' Reference to General Conditions of contract Sl. No. (i)	SCHEDULE 'E' Reference to General Conditions of contract No change

1-27/2/26
EE(C)
D.P. Jindal
EE (Contract)

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

(चन्द्र मल्ल) अभि. (सी. एण्ड एम.)
 (सी. एण्ड एम.) Pal, SE (C&M)

कैलोनवि तथा लोनवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(कैलोनवि वेबसाईट के माध्यम से)

D.P. Jindal
EE (Contract)

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

The Agreement made this day of two thousand andbetween..... son ofof..... (Hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called Government of the other part).

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

AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for five years from the date of giving of water proofing treatment.

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

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

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

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

That if GUARANTOR fails to execute the water proofing or commits breach 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 presents have been executed by the Obligorand byand for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

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

- 1.
- 2.

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

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

GUARANTEE BONDS/AFFIDAVIT FOR ALUMINIUM WORK /UPVC WINDOWS

GUARANTEE TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF ALUMINIUM WORKS / UPVC WINDOWS

The agreement made this _____ day of _____ two thousand and _____ between M/s _____ S/o _____ (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. (Herein after called the Contract) dated _____ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor interalia, under look to render the work in the said contract recited structurally stable workmanship and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guarantee against faulty workmanship, finishing, manufacturing defects of materials and leakages etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable, after the expiry of maintenance period prescribed in the contract for the minimum life of 5 (Five) years, to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer in charge with regard to nature and cause of defects shall be final.

During the period of guarantee the guarantor shall make good all defects to the satisfaction of 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, commits breach there under then the guarantor will indemnify the Principal and his successor 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 WITNES WHEREOF those 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 presence of :.

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

GUARANTEE TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER SUPPLY AND SANITARY INSTALLATIONS

The agreement made this ____ Day of _____ Two thousand between M/s _____ S/o _____
(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 the work in the said contract recited structurally stable workmanship, finishing and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guaranteed against faulty workmanship, finishing, manufacturing defects of materials and leakages, etc.

NOW THE GUARANTOR hereby guarantee that the work executed by him will remain structurally stable after the expiry of maintenance period prescribed in the contract for the minimum life of **5 Years (Five years)** to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and 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 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, commits breach thereunder, then the guarantor will indemnify the principal and his successor 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 both the parties.

IN WITNESS WHEREOF 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.

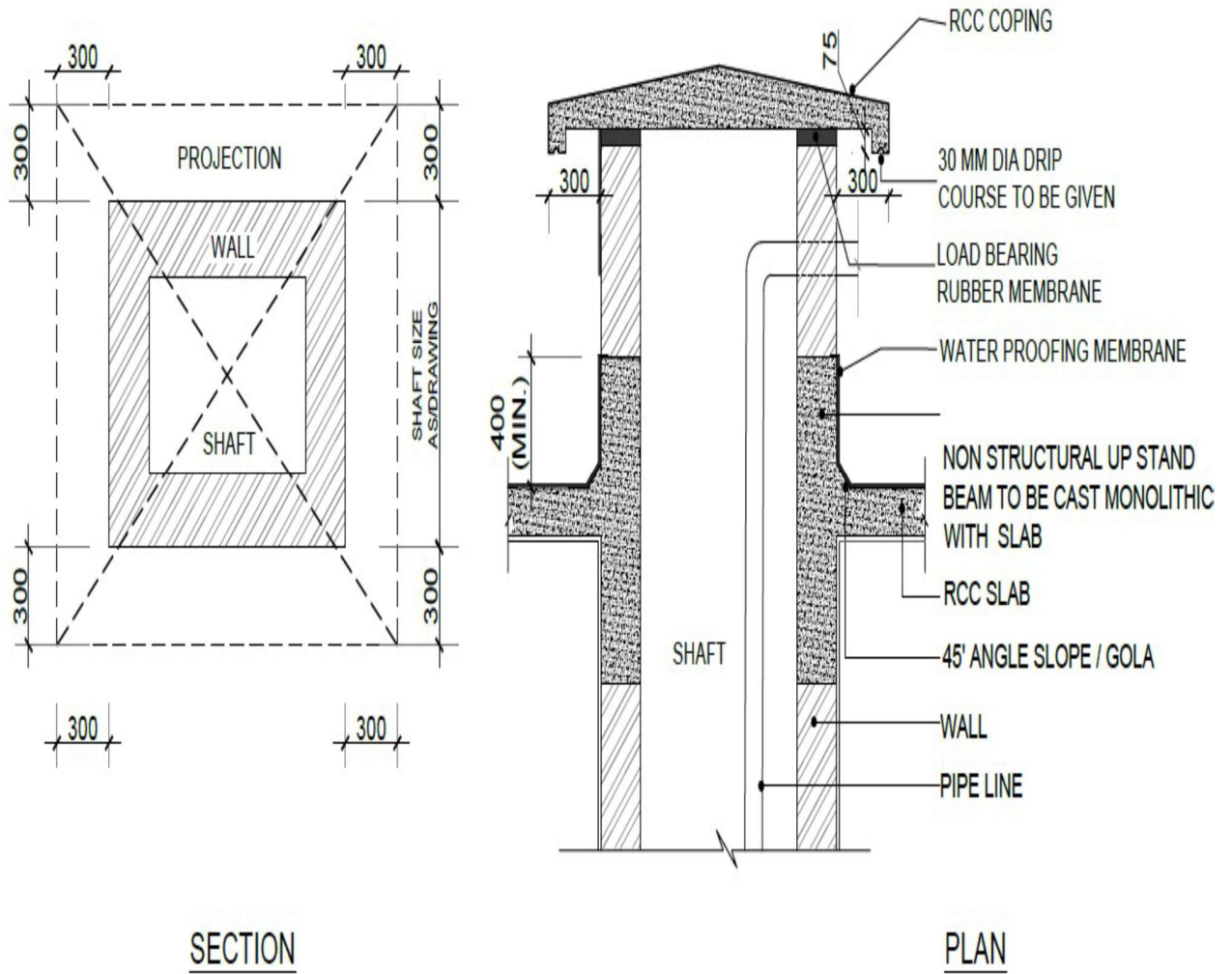
Signed, sealed and delivered by OBLIGATOR in the presence of:

1. _____ 2. _____

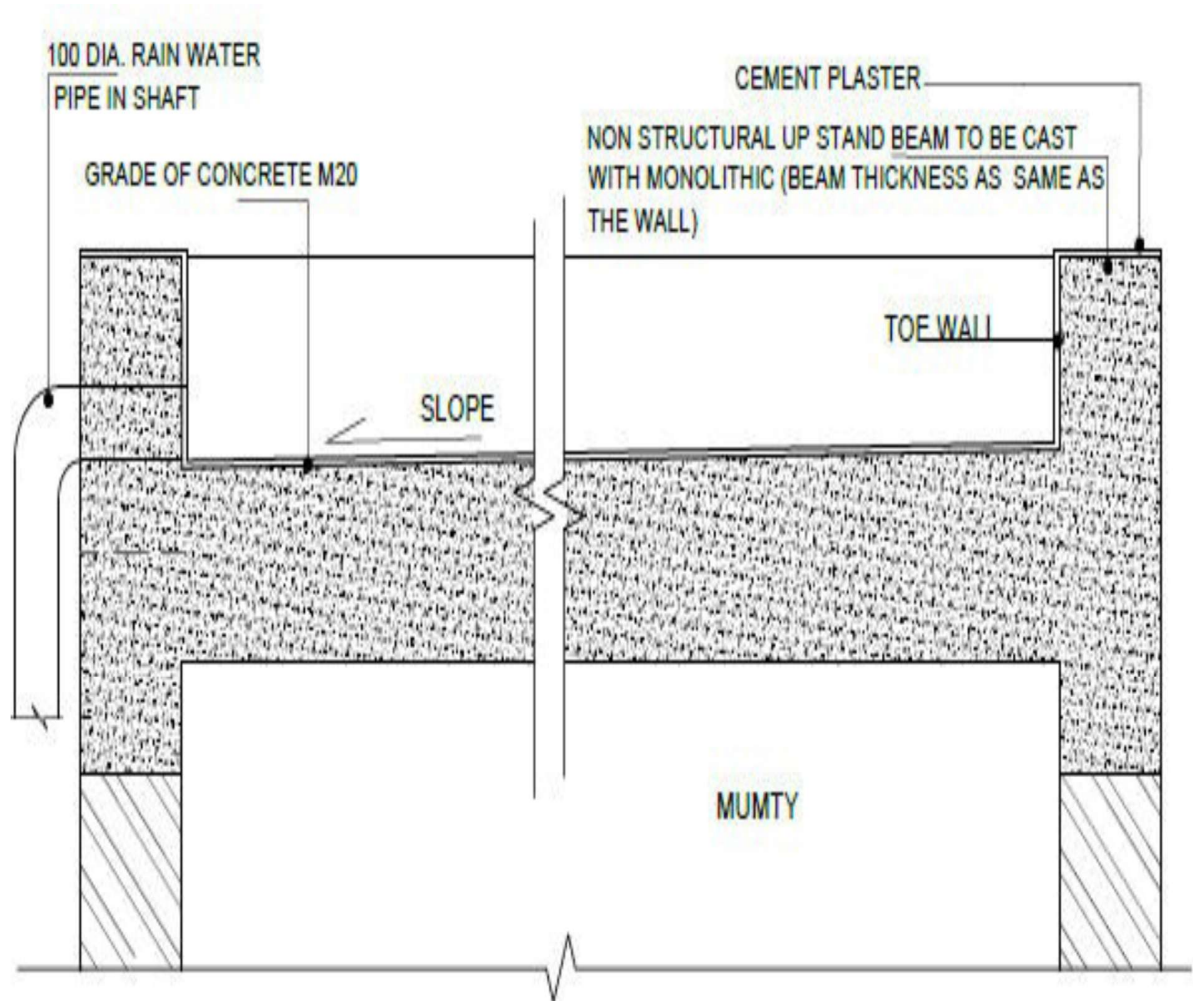
SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY _____ in the presence of :-

1. _____ 2. _____

SHAFT / DUCT

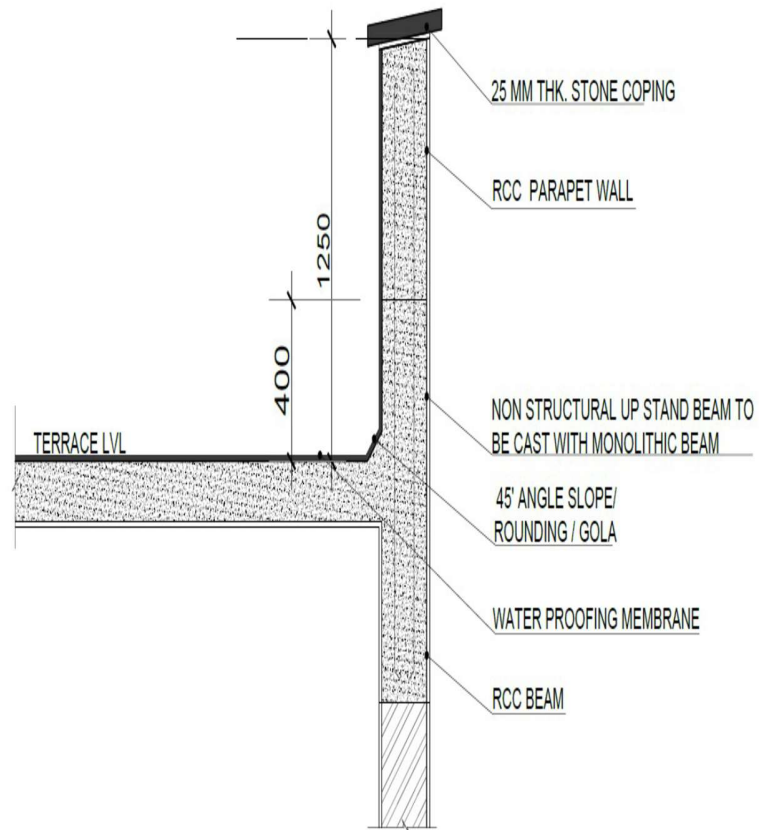


MUMTY ROOF SLAB WITH TOE WALL

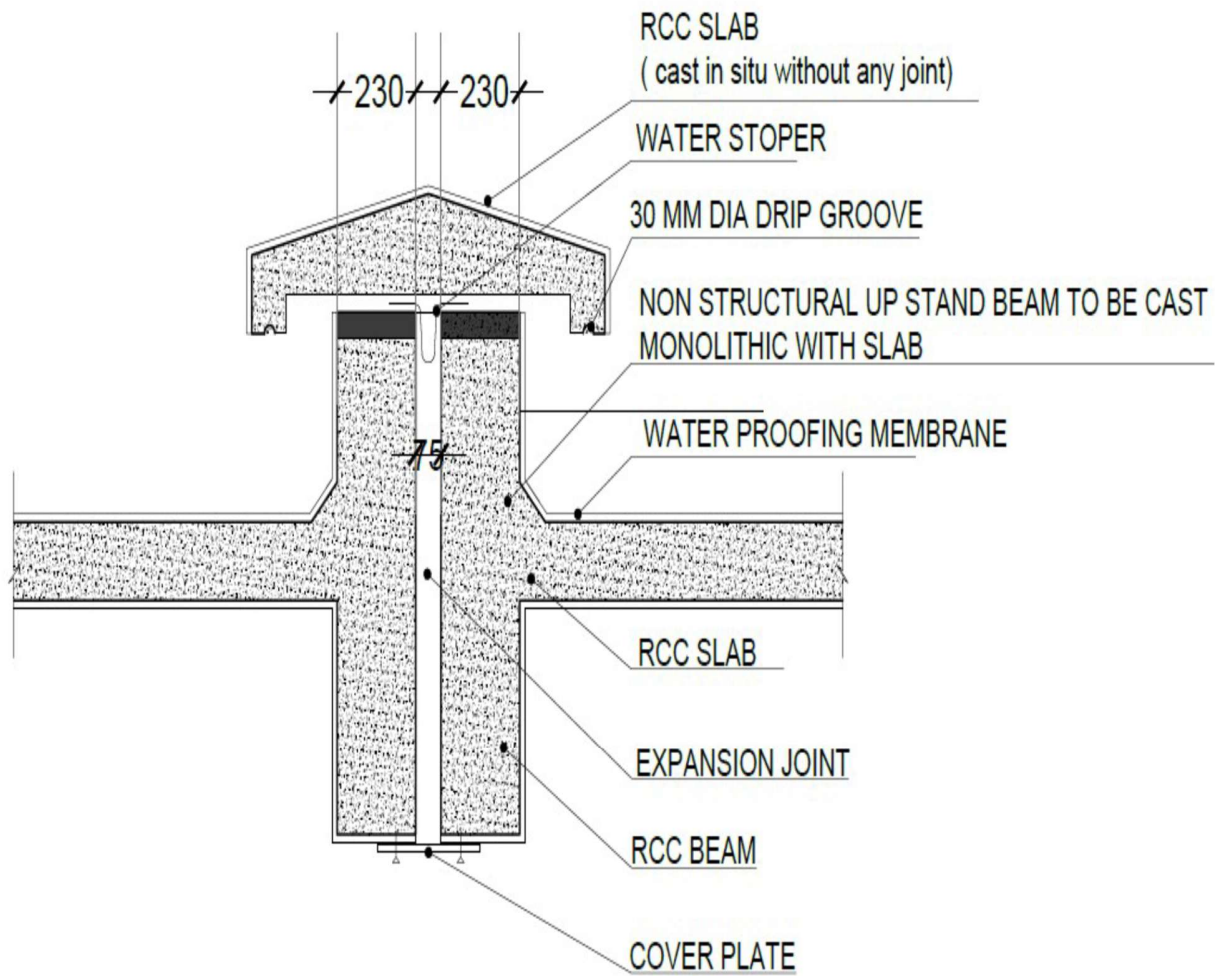


Typical RCC Parapet Details

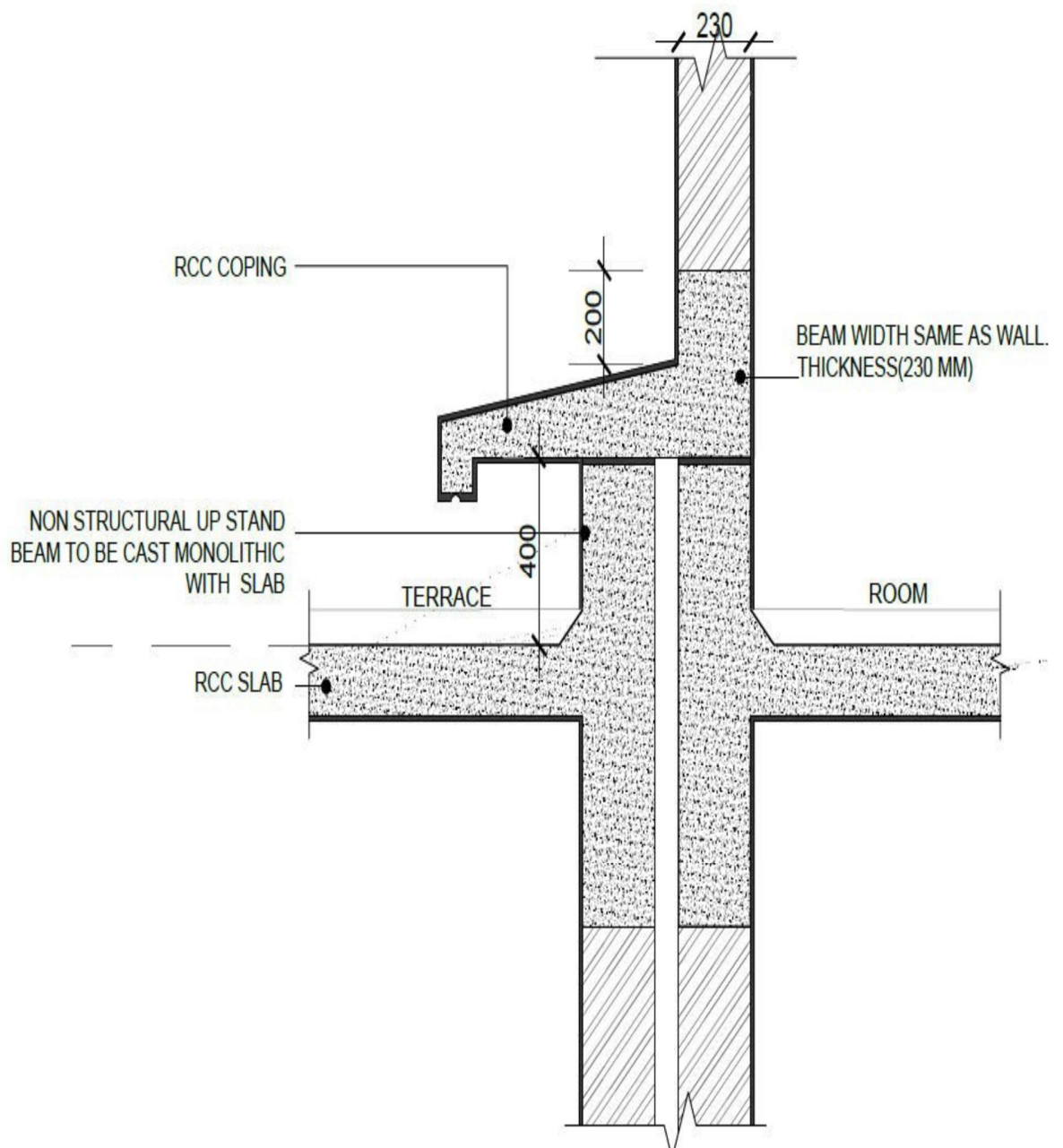
- The entire parapet (including RCC wall) wall to have inverted beams
- Depth of inverted beam be not less than 400 mm depth
- The parapet wall top may have coping with stone with inward slope. Coping stone to be secured properly with mechanical fasteners / stone tile adhesive



TYPICAL DETAILS OF EXPANSION JOINT (AT TERRACE LEVEL)



Details of Expansion Joints at the interface of lower terrace.



Cover of Khurra (Cover shall be made of SS316 instead of MS shown in the Drawing)



Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

LIST OF MATERIALS OF PREFERRED MAKE [CIVIL WORK]

The materials of first/standard quality from the following preferred makes are to be used. In case it is established that the brands specified below are not available in the market, contractor shall submit alternative proposal to Engineer-in-Charge for the approval of NIT approving authority.

LIST OF ACCEPTABLE MAKES OF CIVIL WORK		
SI No.	Materials	Brand / Manufacturer Name
	CEMENT	
1	(i) Ordinary Portland Cement – 43 Grade	ACC, Ambuja Cement, Topcem, Cement, Amrit Cement, Star Cement, Taj Cement, Ultratech, Bangur, Dalmia, Cement, NUVOCO
	(ii) Portland Pozzolona Cement	
	(iii) White Cement	Birla White, J.K. White, Ultra Tech.
2	RMC plant	Ultratech, Prism Johnson, ACC, NUVOCO, Godrej.
3	Admixtures, Plasticizer, Super Plasticizer,	Fosroc, CICO, Penetron, Sika, STP Ltd., BASF, ROFF.
	STEEL	
4	Reinforcement Steel	SAIL, RINL, TATA, JSW, JSPL
5	Structural Steel	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd. (RINL) and JSW Steel Ltd (Neo Steel), Jindal Steel & Power Ltd (Panther), APL Apollo.
6	Steel door frames as per design	JSW, Tata, APL Apollo.
8	Stainless Steel Railing, Accessories etc.	TATA, JINDAL, Dorma, Hardwyn.
	WATERPROOFING	
9	Water Proofing Compounds	Fosroc, Pidilite Industries, Penetron, Sika, ROFF.
10	Curing Compounds	Fosroc, Pidilite Industries, BASF, MYK.
11	Integral Water Proofing compound with cement (For Plaster & Mortar)	Fosroc, Dr. Fixit, Sika, ROFF.
12	Water proofing for roof/bathroom/toilet/ balcony, tanks & other wet areas	Fosroc, Dr. Fixit, Sika, ROFF.
13	Waterproofing HDPE Membrane for raft and retaining wall	Pidilite, Fosroc, Sika, BASF, MYK Arment, ROFF.
14	Waterproofing for self-adhesive membrane (retaining wall)	Pidilite, Fosroc, Sika, BASF, MYK Arment, ROFF.
15	Waterproofing of roof and podiums with PU/Polyisoprene	Pidilite, Fosroc, Sika, BASF, MYK Arment, ROFF.
16	Food Grade epoxy for tanks	Pidilite, Fosroc, Sika, ROFF.
17	Coal Tar Epoxy	Pidilite, Fosroc, Sika, ROFF.
18	EPDM & Silicon Gasket	Amee Rubber, Osaka, Eltech, Avigiri.
19	Modular expansion joint	Herculus, Sanfield India Ltd. Vexcolt, VSIL, DECG International.
	TILES / FLOORING (All tiles shall be manufactured in mother plant of the company)	
20	Vitrified Tiles (Antiskid / Matt / Glazed)	Kajaria, Somany, Johnson, RAK, Varmora, Orientbell.
21	Ceramic Tiles	Kajaria, Somany, Johnson, RAK, Varmora, Orientbell.
22	Mosaic tiles/Chequered Tiles	Ultra Tiles, Kajaria, Johnson, Unistone, NITCO.
23	Heat Resistant Tiles	Kajaria, Somany, Johnson, RAK.
24	Grouts, Tile Adhesive	Rooff, Pidilite, Ferrous crete, JK Cement, Ardex endura.

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

	WOOD WORK	
25	Ply Board	Action TESA, Greenlam, Gattani, Century, Kitply, Archidply, Merino.
26	WPC (Wood Polymer Composite)	Rajshri, Greenply, Gattani, Falcon Green, Century, Alstone
27	Laminated Particle Board/Laminates	Action TESA, Century, Merino, Archidply, Greenply, Greenlam.
28	Plywood/Veneer	Century, Merino, Gattani, Archidply, Greenply, Kitply.
29	Flush door shutters	Merino, Duro, Century, Gattani, Durian, Archidply, Greenply, Kitply.
30	uPVC doors & Windows	Duroplast, Rajshri, Astrix, PlastOne, Venster/Okotech Fenesta, Rehau, Kommerling, Encraft.
31	uPVC doors and window hardwares	Oben, Kinlong, Cotswold, GU, Rotto.
32	Extruded Polystyrene Insulation Board/Sheet	Dowcorning, Supreme, Texas, Analco, Aerolam.
33	Glass Wool	Dow Corning, U.P. Twiga, Isover.
34	RIGID cellular GEOFOAM	Modi Foam, Vishalfoam, Foamex.
35	FRP Door	Jaina, Fiberways, Rajshri.
36	Laminate / HPL	Century, Greenlam, Gattani, Marino.
37	ACP (Aluminium Composite Panel, AHP (Aluminium Honeywell Panel), ZCP (Zinc Composite Panel)	Alstrong, Alstone, Reynobond, Virgo, Aludecor, Eurobond, Viva ACP.
	ROOFING	
38	Polycarbonate sheet	GE Plastic, LEXAN, DPI Daylighting, Gallina
39	Profile Sheet	Dynarroof, Kamdhenu Color Max, Mega Roof Solutions, Power Roof, Smart Roof, Shiv Shakti Fibre Udyog.
40	Profile steel sheet (Precoated)	Ezydeck of TATA, Essar Steel, SAIL, Tata Bluescope
	FIRE DOOR	
41	Fire Rated Metal Doors	Signum Fire Protection, Amvor, Navair, Pacific Fire Control, Shakti Horman, , Sukriti, Bhawani.
42	Fire Rated Glass	Saint Gobain, Modiguard, Asahi, Scott Pyroguard.
43	Fire Door Hardware	Signum Fire Protection, Amvor, Navair, Pacific Fire Control, Shakti Horman, Sukriti, Bhawani , Dormakaba, GEZE, Haffelle
	FALSE CEILING	
44	Metal False Ceiling	Hunter Douglas, Armstrong, Bollard, Knauf, Saint Gobain.
45	Gypsum Board False Ceiling	Saint Gobain (Gyproc), USG Knauf, Armstrong, India Gypsum.
46	Calcium Silicate False Ceiling	Aerolite, Everest, Armstrong (mylar), RAMCO (Hilux)
47	GRG False Ceiling	Diamond, Knauf, Armstrong, Gypsonic, Saint Gobain (Gyproc).
48	Mineral Fiber False Ceiling	Aerolite, Everest, Armstrong, Bollard, Saint Gobain (Gyproc).
49	Baffle ceiling system	Armstrong, Saint Gobain, Bollard, Hunter Douglas
	ALUMINIUM	
50	Aluminium Section	Hindalco, Jindal, Bhagwati Sai, HALCO, Encraft
51	Anodised Aluminium Hardware (Heavy Duty)	Kinlong, Classic, Ebco, Ozone, Jindal, Hettich.

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

52	Clear/Float/Frosted/Reflective/ Coated Glass / Toughened / Lacquered glass	Saint Gobain, Modiguard, Guardian, AIS.
	DOOR & WINDOW FITTINGS	
53	Floor Spring & Door Closure	Godrej, Dorma, Hafele, Geze, Kich, Ozone, Hardwyn, Dorset.
54	S.S. Door & Window Fittings, Door Handle (Brass, Zinc & SS) Locking System (Mortice lock, Night latches, Cylindrical lock, Euro profile cylinders), Door Hardware (Door closure, Floor spring, Tower bolt & Hinges), Modular Kitchen cupboard,	Dorma, Hafele, Hettich, Ozone, Godrej, Kich, Dorset, IPSA.
55	Spider Fittings	Dorma, Godrej, Hettich, Ozone
56	Aluminum Door & Window Fittings/ Hardware	Jindal, Dorma, Ebco.
57	Dash/Anchoring Fasteners	HILTI, Fischer, Bosch, Wurth.
	FINISHING WORK	
58	Cement Based Wall Putty	Birla wall care, JK White, Sakarni, Asian paint.
59	Oil Bound Washable Distemper/Dry Distemper	Asian Paints (Professional Acrylic Distemper), Nerolac : Beauty Acrylic Distemper Berger : Bison Acrylic Distemper Dulux ICI : Maxilite
60	1st Quality Acrylic Distemper (washable / Ready Mix / Low VOC)	Asian Paints (Tractor Aqua Lock Paint) Berger : Commando, Dulux : Superclean, Nerolac: Beauty,
61	Premium Acrylic Emulsion Paints (Interior)	Asian Paints : (Royale Luxury Emulsion, Apcolite All Protek Nerolac : Impression Berger : Silk Dulux : Velvet touch
62	Textured Exterior Paint	Asianpaints, Nerolac, Berger Paints
63	Premium Acrylic Smooth Exterior Paint with silicon additive	Asian Paints : (Apex Ultima) Nerolac : XL Total Berger : Weather Coat all guard Dulux : Weather Shield max
64	Synthetic Enamel Paint	Asian (Apcolite Premium gloss enamel), Nerolac : Synthetic Hi gloss Berger :Luxol Hi gloss Dulux : Gloss Synthetic enamel
65	Cement Primer	Nerolac, Berger, BP White (Berger), Decoprime WT (Asian), White Primer, Dulux.
66	Wood Primer	Asian Paints, Berger,Dulux, Nerolac.
67	Epoxy Paint	Asian, Dulux, Wintech, Nova.
68	Fire Paint	Asian Paint, Dulux. Promat, Jotun.
69	Gypsum Plaster	Ferrous Crete, Gyproc, Ultratech.
70	External plaster (Polymer modified white cement based matt finish putty)	Birla white level plast, J.K. Coarse Putty.
71	Floor hardener	Ironite, Ferrok, Hardonate.

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

72	Silicon based water repellant / Weather sealant	G.E. Plastics, Dow Corning, (Wacker), BASF, Pidilite Dr. Fixit, ROFF.
73	Poly-Sulphide Sealant	Fosroc, Pidilite, Berger.
74	Melamine Polish	Asian Paints Melamine Gold, Wudfin of Pidilite, Timbertone of ICI Dulux, Sirca.
75	Textured Paint	Asian Paint, Berger, Ultratech.
	PLUMBING WORKS	
76	G.I./M.S. Pipe	Tata, Jindal (Hisar), Nezone.
77	G.I. Fittings	Unik, Zoloto, Jindal (Hisar).
78	HDPE Pipes	Oriplast, Supreme, Dulet, Prince.
79	DI Pipes	Electosteel, Jindal, Tata Ductura, Kesoram, Kapliash.
80	DI Fittings	Electosteel, Jindal, Tata Ductura, Kesoram, Kapliash.
81	UPVC pipe and fittings	Astral, Ashirwad, Fusion, Prince, Supreme.
82	CPVC pipe & Fitting	Astral, Ashirwad, Fusion, Prince, Supreme.
83	Centrifugally Cast (spun) Iron / Hubless pipes & fittings	NECO, Electrosteel, Nezone, Bic, Kapliash.
84	C.I. Manhole covers, frames & GI gratings	NECO, SKF, RIF.
85	SFRC Manhole covers & gratings	KK, JAIN, PARGATI.
86	CP Brass fittings	Grohe, Kohler, Roca, Jaquar (Florentine / Pressmatic), Toto.
87	Sanitary ware, Fittings & accessories	Hindware, Jaquar, Parryware (Eternal collection), Kohler, Roca.
88	Mirror Glass	Atul, Modi Guard, Golden Fish, Saint-Gobain.
89	Modular toilet Cubical	Merino, Greenlam, Dormakaba.
90	Glass Shower enclosure	Jaquar, Ozone, Dorma .
91	PVC water storage tank	Sintex, Supreme, Polycon.
92	PTMT bath accessories	Prayag, Vectus, Polytuf.
93	Valves	KBS, Zoloto, Sant.
94	Stainless Steel Sink	Neelkanth, Jindal, Cera, Nirali.
	MISCELLANEOUS	
95	Metal Louvers	Alstone, Bollard, Hunter Douglas.
96	AAC Block Adhesive	Ultratech, Ardex Endura, Ferrous Crete,
97	AAC Block	Superlite, Austin, Taj AAC Block, Brikolite, Power Lite, Green AAC Block, Ultratech.
98	Fiber Cement Board	Bison (NCL), Everest, Lafarge.
99	Paver Blocks	Mawroh concrete & pavers, Hero pavers, Maheshwari Industries.
100	Modular kitchen	Godrej interio/ SLEEK / IKEA / Brown crust, Durian Neelkanth.
101	GRG Jali, Dome, Cornice	Nav Nirman, Samudyam, Eco Vision Industries.

Note :

1. When two or more alternative brands have been mentioned, the brand to be finally used shall be as decided by the Engineer-In-Charge. Nothing extra on this account is payable.
2. Article / Material / Brand which are not mentioned in the above list may be approved by the Chief Engineer on the request of Contractor / Agency provided that the Material / Article / Brand proposed by the contractor should have equivalent or better specifications and rates which are already mentioned in the list.
3. All other items shall be of ISI marked / as per approved sample kept at site of work.
4. The waterproofing / Paint work shall be executed through authorized applicator of the manufacturer only.

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

SCHEDULE OF WORK (CIVIL)

Name of work : "Construction of Office-Cum Residential Complex along with Boundary Wall for SIB at Mathanguri (Assam)."

SLNo	Description	Qty	Unit	Rate	Amount
1	EARTH WORK				
1.1	Add for rolling with power roller of minimum 8 tonnes for banking excavated earth in layers not exceeding 20 cm in depth.	9632.00	cum	5.25	50568.00
1.2	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and for all lift, as directed by Engineer-in-charge.				
1.2.1	All kinds of soil	3274.00	cum	177.50	581135.00
1.3	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, for all lift, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.				
1.3.1	All kinds of soil.	858.00	cum	260.30	223337.00
1.4	Excavating trenches by mechanical / manual means of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, for all depth, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:				
1.4.1	All kinds of soil				
1.4.1.1	Pipes, cables etc, not exceeding 80 mm dia. But not exceeding 300mm dia	68.00	metre	352.15	23946.00
1.5	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lif.	2286.00	cum	196.00	448056.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

1.6	Excavating, supplying, stacking and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in foundation trenches, plinth, sides of foundation etc. complete for all lift.	9877.00	cum	700.50	6918839.00
1.7	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.				
1.7.1	All kinds of soil	1361.00	cum	126.80	172575.00
1.8	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	89.00	cum	2123.75	189014.00
1.9	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	4015.00	sqm	17.60	70664.00
	Sub-Total				8678134.00
2	CEMENT CONCRETE (CAST IN SITU)				
2.1	Providing and laying in position excluding cement concrete of level: specified grade the cost of centering and shuttering - All work up to plinth				
2.1.1	1:2:4 (1cement : 2 coarse sand (zone-III) derived from natural sources: 4 graded stone aggregate 20 mm nominal size derived from natural sources)	10.00	cum	7878.50	78785.00
2.1.2	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	227.00	cum	6518.60	1479722.00
2.2	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing:				
2.2.1	1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	14.00	cum	9895.20	138533.00
2.2.2	1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources: 6 graded stone aggregate 20 mm nominal size derived from natural sources)	2.60	cum	9311.40	24210.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

2.3	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	112.00	per bag of cement of 50 kg	18.15	2033.00
2.4	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75 mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	114.00	sqm	749.30	85420.00
	Sub-Total				1808703.00
3	REINFORCED CEMENT CONCRETE				
3.1	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				
3.1.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	5.00	cum	8583.40	42917.00
3.2	Centering and shuttering including strutting, propping etc. and removal of form for				
3.2.1	Foundations, footings, bases of columns, etc. for mass concrete	1213.00	sqm	392.15	475678.00
3.2.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	367.00	sqm	842.50	309198.00
3.2.3	Suspended floors, roofs, landings, balconies and access platform	803.00	sqm	927.25	744582.00
3.2.4	Shelves (Cast in situ)	14.00	sqm	927.25	12982.00
3.2.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	1804.00	sqm	736.40	1328466.00
3.2.6	Columns, Pillars, Piers, Abutments, Posts and Struts	1741.00	sqm	961.30	1673623.00
3.2.7	Stairs, (excluding landings) except spiral-staircases	55.00	sqm	764.95	42072.00
3.2.8	Edges of slabs and breaks in floors and walls				
3.2.8.1	Under 20 cm wide	399.00	metre	208.55	83211.00
3.2.9	Weather shed, Chajjas, corbels etc., including edges	143.00	sqm	951.10	136007.00

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3.3	Providing, hoisting and fixing above plinth level up to floor five level precast reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills and the like, including the cost of required centering, shuttering but excluding cost of reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	0.30	cum	10585.90	3176.00
3.4	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
3.4.2	Low alloy Thermo-Mechanically Treated bars of grade Fe-500D or more Low alloy Thermo-Mechanically Treated bars of grade Fe-500D or more (Conform to bar set I and other specifications as per detailed specifications mentioned in Special conditions of NIT).	70988.00	kg	107.85	7656056.00
3.5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
3.5.1	Low alloy Thermo-Mechanically Treated bars of grade Fe-500D or more Low alloy Thermo-Mechanically Treated bars of grade Fe-500D or more (Conform to bar set I and other specifications as per detailed specifications mentioned in Special conditions of NIT).	52605.00	kg	107.85	5673449.00
3.6	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	223.00	metre	78.40	17483.00
3.7	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge, for the following grades of concrete.: Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.				

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3.7.1	All works upto plinth level				
3.7.1.1	Concrete of M30 grade with minimum cement content of 350 kg /cum	555.00	cum	9655.70	5358914.00
3.7.2	All works above plinth level upto floor V level				
3.7.2..1	Concrete of M25 grade with minimum cement content of 330 kg /cum	4.00	cum	9860.40	39442.00
3.7.2.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	430.00	cum	10011.35	4304881.00
3.8	Add for using extra cement in the items of design mix over and above the specified cement content therein.	205.00	qtl.	733.50	150368.00
	Sub-Total				28052505.00
4	MASONRY WORK				
4.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
4.1.1	Cement mortar 1:6(1 cement :6 coarse sand)	99.00	cum	7132.25	706093.00
4.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
4.2.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	412.00	cum	9105.95	3751651.00
4.3	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in :				
4.3.1	cement mortar 1:4(1 cement :4 coarse sand)	100.00	sqm	905.05	90505.00
4.4	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.				
4.4.1	Cement mortar 1:4(1 cement :4 coarse sand)	460.00	sqm	1123.80	516948.00
4.5	Extra for providing and placing in position 2 Nos 6 mm dia. M.S. bars at every third course of half brick masonry.	460.00	sqm	104.80	48208.00
	Sub-Total				5113405.00
5	CLADDING WORK				
5.1	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.				
5.1.1	Granite stone slab of colour black, Cherry/Ruby red				

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5.1.1.1	Area of slab upto 0.50 sqm	57.00	sqm	5413.50	308570.00
5.1.1.2	Area of slab over 0.50 sqm	77.00	sqm	5136.30	395495.00
5.2	Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.				
5.2.1	Granite work	348.00	metre	510.95	177811.00
5.3	Extra for fixing marble /granite stone, over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.	34.00	metre	568.55	19331.00
5.4	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/ stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.00	each	978.70	7830.00
5.5	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.				
5.5.1	Granite Stone of approved shade	1.10	sqm	4051.85	4457.00
5.6	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3(1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	287.00	sqm	1267.95	363902.00
	Sub-Total				1277396.00
6	WOOD AND P. V. C. WORK				
6.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				

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6.1.1	Sal wood	1.85	cum	116520.30	215563.00
6.2	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
6.2.1	25 mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. Piano hinges IS : 3818 marked with necessary screws	9.00	sqm	2819.25	25373.00
6.3	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
6.3.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	73.00	sqm	2392.65	174663.00
6.4	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	73.00	sqm	462.35	33752.00
6.5	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	71.00	sqm	106.70	7576.00
6.6	Providing and fixing nickel plated M.S. pipe curtain rods with nickel plated brackets :				
6.6.1	25 mm dia (heavy type)	75.00	metre	186.40	13980.00
6.7	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.				
6.7.1	Fixed to openings /wooden frames with rawl plugs screws etc.	1058.00	kg	238.35	252174.00
6.8	Providing 40x5 mm flat iron hold fast 400 mm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embedding in cement concrete block 300x100x150 mm 1:3:6 mix (1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	210.00	Nos.	228.85	48059.00
6.9	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	11.00	Nos.	854.65	9401.00

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6.10.	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	32.00	Nos.	1124.85	35995.00
6.11	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS: 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :				
6.11.1	300x16 mm	1.00	Nos.	303.25	303.00
6.12	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
6.12.1	250x10 mm	2.00	Nos.	115.15	230.00
6.13	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
6.13.1	125 mm	2.00	Nos.	66.25	133.00
6.14	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.				
6.14.1	1.0 mm thick.	326.00	sqm	897.30	292520.00
6.15	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws :				
6.15.1	35 mm thick shutters				
6.15.1.1	With ISI marked stainless steel butt hinges of required size				
6.15.1.1.1	Second class teak wood	17.00	sqm	5217.65	88700.00
	Sub-Total				1198422.00
7	STEEL WORK				
7.1	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	460.00	kg	117.35	53981.00

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7.2	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	1845.00	kg	133.70	246677.00
7.3	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.				
7.3.1	80x1.25 mm M.S. laths with 1.25 mm thick top cover	21.00	sqm	3653.20	76717.00
7.4	Providing and fixing ball bearing for rolling shutters.	6.00	Nos.	492.35	2954.00
7.5	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.				
7.5.1	Hot finished welded type tubes	3326.00	kg	194.40	646574.00
7.6	Providing and fixing M.S. fan clamp type I or II of 16 mm dia M.S. bar, bent to shape with hooked ends in R.C.C. slabs or beams during laying, including painting the exposed portion of loop, all as per standard design complete.	42.00	Nos.	226.00	9492.00
7.7	Providing and fixing mild steel round holding down bolts with nuts and washer plates complete.	171.00	kg	97.20	16621.00
7.8	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	1103.00	kg	772.40	851957.00

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7.9	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete.				
7.9.1	Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides	29.00	sqm	1133.55	32873.00
	Sub-Total				1937846.00
8	FLOORING				
8.1	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.				
8.1.1	40 mm thick with 20 mm nominal size stone aggregate	7.00	sqm	614.20	4299.00
8.2	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).				
8.2.1	Light shade pigment using white cement	26.00	sqm	1402.00	36452.00
8.3	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sq.m including pointing the joints with white cement and matching pigments etc., complete.	13.00	sqm	1315.30	17099.00
8.4	Providing and laying vitrified floor tiles in diferent sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.				
8.4.1	Size of Tile 600x600 mm	453.00	sqm	1553.45	703713.00

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8.5	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.				
8.5.1	Size of Tile 600 x 600 mm	78.00	sqm	1464.85	114258.00
8.6	Providing and laying Vitrified tiles in diferent sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.				
8.6.1	Size of Tile 600x600 mm	65.00	sqm	1623.05	105498.00
8.7	Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.				
8.7.1	Size of Tile 600x600 mm	531.00	sqm	309.05	164106.00
8.8	Deduct for not grouting the joints with white cement and matching pigment in the items of fixing of vitrified tiles.	531.00	sqm	-13.30	-7062.00
8.9	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
8.9.1	Polished Granite stone slab of colour Black, Cherry/Ruby Red or equivalent	280.00	sqm	4481.30	1254764.00
	Sub-Total				2393127.00

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9	ROOFING				
9.1	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x 1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	24.00	Nos.	298.25	7158.00
9.2	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	24.00	Nos.	54.70	1313.00
9.3	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :				

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9.3.1	12.5 mm thick tapered edge Glass Reinforced Gypsum (GRG) board conforming to IS: 2095- (Part 3):1996 (Boards with BIS certification marks)	231.00	sqm	1520.10	351143.00
9.4	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-Charge) of total coated thickness 0.50 mm (base metal of minimum 0.45 mm thickness with total coating thickness of 0.05mm) with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling/self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	195.00	sqm	738.65	144037.00
9.5	Providing and fixing precoated galvanised steel sheet roofing accessories of total coated thickness 0.50 mm (base metal of minimum 0.45 mm thickness with total coating thickness of 0.05 mm) with Zinc coating 120 gram per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete :				
9.5.1	Ridges plain (500- 600mm)	30.00	metre	532.35	15971.00

9.6	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.				
9.6.1	GI Metal Ceiling Lay in perforated Tegular edge global white color tiles of size 595x595 mm and 0.5 mm thick with 8 mm drop; made of GI sheet having galvanizing of 100 gms/sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC (Noise Reduction Coefficient) of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation, and backed with a black Glass fiber acoustical fleece.	41.00	sqm	2068.75	84819.00
	Sub-Total				604441.00
10	FINISHING				
10.1	12 mm cement plaster of mix:				
10.1.1	1:6(1 cement: 6 fine sand)	2812.00	sqm	333.35	937380.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

10.2	15 mm cement plaster on the rough side of single or half brick wall of mix:				
10.2.1	1:6 (1 cement: 6 fine sand)	2757.00	sqm	383.00	1055931.00
10.3	12 mm cement plaster finished with a floating coat of neat cement of mix:				
10.3.1	1:3 (1 cement: 3 fine sand)	289.00	sqm	439.25	126943.00
10.4	6 mm cement plaster of mix:				
10.4.1	1:3(1 cement :3 fine sand)	1996.00	sqm	300.45	599698.00
10.5	Neat cement punning.	128.00	sqm	79.95	10234.00
10.6	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:				
10.6.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm)	4376.00	sqm	171.10	748734.00
10.7	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
10.7.1	Two or more coats on new work	555.00	sqm	155.90	86525.00
10.8	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:				
10.8.1	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	110.00	sqm	226.25	24888.00
10.9	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.	4842.00	sqm	156.05	755594.00
10.10.	Wall painting with acrylic emulsion paint, 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.				
10.10.1	Two coats	35.00	sqm	137.45	4811.00
10.11	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.				
10.11.1	Two coats	2998.00	sqm	142.80	428114.00
10.12	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				

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10.12.1	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	3033.00	sqm	73.95	224290.00
	Sub-Total				5003142.00
11	ROAD WORK				
11.1	Dry stone pitching 22.5 cm thick including supply of stones and preparing surface complete.	87.00	sqm	883.15	76834.00
11.2	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite direction for 10 cm length and drilling holes upto 10 mm dia. etc. complete.	1026.00	kg	125.75	129020.00
11.3	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5 mm thick) wire of high tensile strength of 165 kg/ sq. mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	401.00	metre	375.80	150696.00
11.4	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately). (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately).	133.00	cum	9823.80	1306565.00
11.5	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer- in-Charge.				

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11.5.1	With material conforming to Grade-III (size range 26.5 mm to 0.075 mm) having CBR Value-20	213.00	cum	2808.55	598221.00
11.6	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer-in- charge.	89.00	cum	4148.65	369230.00
11.7	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8 mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20 mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	3.00	sqm	2017.60	6053.00
11.8	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50 mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.				
11.8.1	80 mm thick C.C. paver block of M-35 grade with approved colour design and pattern.	239.00	sqm	1091.50	260869.00
	Sub-Total				2897488.00

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12	SANITARY INSTALLATIONS				
12.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:				
12.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	1.00	each	6767.40	6767.00
12.2	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
12.2.1	White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	4.00	each	1879.20	7517.00
12.3	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
12.3.1	Kitchen sink without drain board				
12.3.1.1	610x460 mm bowl depth 200 mm	4.00	each	3873.80	15495.00
12.4	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.				
	(a) 15 mm nominal dia	9.00	each	6940.75	62467.00
12.5	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
12.5.1	Flexible pipe				
12.5.1.1	32 mm dia	15.00	each	119.55	1793.00
12.5.1.2	40 mm dia	4.00	each	119.55	478.00
12.6	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :				
12.6.1	Rectangular shape 453x357 mm	15.00	each	1361.80	20427.00
12.7	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	15.00	each	1083.50	16253.00

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12.8	Providing and fixing toilet paper holder :				
12.8.1	C.P. brass	13.00	each	803.70	10448.00
12.9	Providing and fixing soil, waste and vent pipes :				
12.9.1	100 mm dia				
12.9.1.1	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	5.00	metre	1180.75	5904.00
12.9.1.2	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	304.00	metre	1169.30	355467.00
12.9.2	75 mm diameter :				
12.9.2.1	Centrifugally cast (spun) iron socketed pipe as per IS: 3989	5.00	metre	1186.00	5930.00
12.10	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
12.10.1	100 mm dia				
12.10.1.1	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	40.00	Nos.	567.20	22688.00
12.11	Providing and fixing plain bend of required degree.				
12.11.1	100 mm dia				
12.11.1.2	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	60.00	Nos.	368.00	22080.00
12.12	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
12.12.1	100x100x100 mm				
12.12.1.1	Sand cast iron S&S as per IS - 3989	13.00	Nos.	925.70	12034.00
12.13	Providing and fixing terminal guard :				
12.13.1	100 mm				
12.13.1.1	Sand cast iron S&S as per IS - 3989	4.00	Nos.	506.00	2024.00
12.13.1.2	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	14.00	Nos.	427.80	5989.00
12.14	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipe				
12.14.1	100 mm dia				
12.14.1.1	SS 304 grade coupling with EPDM rubber gasket	104.00	Nos.	432.05	44933.00
12.15	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter :				
12.15.1	100 mm	4.00	Nos.	622.50	2490.00
12.16	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
12.16.1	100 mm inlet and 100 mm outlet				

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12.16.1.1	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	25.00	Nos.	854.55	21364.00
12.17	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	15.00	Nos.	168.35	2525.00
12.18	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
12.18.1	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	14.00	Nos.	708.95	9925.00
12.19	Providing and fixing M.S. holder bat clamp of approved design to sand cast iron/ cast iron (spun) pipes comprising of M.S. flat brackets made of 50x5 mm flat of specified shape, projecting 75 mm outside the wall surface and fixed on wall with 4nos, 6 mm dia expansion hold fasteners, including drilling necessary holes in brick wall/ CC/ RCC surface and the cost of bolts etc. The pipes shall be fixed to the already fixed brackets with the help of 30 mm x1.6 mm galvanised M.S. flats of specified shape and of total length 420 mm and shall be fixed with M.S. nuts, bolts, & washers of size 25x6 mm, one bolts on each side of the pipe.				
12.19.1	Total bracket length 580 mm of approved shape and design (for single 100 mm dia pipe)	163.00	Nos.	304.05	49560.00
12.20	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	13.00	Nos.	14999.15	194989.00
12.21	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	2.00	Nos.	7979.20	15958.00
	Sub-Total				915505.00
13	WATER SUPPLY				

13.1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply and all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall				
13.1.1	20 mm nominal dia Pipes	57.00	metre	335.00	19095.00
13.1.2	25 mm nominal dia Pipes	58.00	metre	401.55	23290.00
13.1.3	32 mm nominal dia Pipes	93.00	metre	518.75	48244.00
13.1.4	40 mm nominal dia Pipes	84.00	metre	702.95	59048.00
13.2	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings and fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.				
13.2.1	20 mm nominal dia Pipes	57.00	metre	537.60	30643.00
13.2.2	25 mm nominal dia Pipes	84.00	metre	627.25	52689.00
13.3	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work				
13.3.1	20 mm dia nominal bore	30.00	metre	368.60	11058.00
13.3.2	50 mm dia nominal bore	170.00	metre	762.15	129566.00
13.5	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
13.5.1	32 mm nominal bore.	8.00	Nos.	689.60	5517.00
13.5.2	50 mm nominal bore	9.00	Nos.	1026.65	9240.00
13.6	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
13.6.1	25 mm nominal bore	12.00	Nos.	464.05	5569.00
13.7	Providing and fixing gun metal non- return valve of approved quality (screwed end) :				
13.7.1	50 mm nominal bore				
13.7.1.1	Horizontal	3.00	Nos.	1371.20	4114.00
13.8	Providing and fixing uplasticised PVC connection pipe with brass unions :				
13.8.1	45 cm length				

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

13.8.1.1	15 mm nominal bore	48.00	Nos.	97.75	4692.00
13.9	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
13.9.1	100 mm diameter	10.00	Nos.	193.95	1940.00
13.10.	Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work :				
13.10.1	50 mm diameter pipe	170.00	metre	51.00	8670.00
13.11	Providing and filling sand of grading zone V or coarser grade, allround the G.I. pipes in external work :				
13.11.1	50 mm diameter pipe	170.00	metre	173.25	29453.00
13.12	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	8500.00	litre	11.00	93500.00
13.13	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.				
13.13.1	15 mm nominal bore	5.00	Nos.	798.95	3995.00
13.14	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
13.14.1	15 mm nominal bore	1.00	Nos.	670.45	670.00
13.15	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
13.15.1	15 mm nominal bore	45.00	Nos.	574.30	25844.00
13.16	Providing and fixing C.P. Brass extension nipple (size 15 mm x 50 mm) of approved make and quality as per direction of Engineer-in-charge.	60.00	Nos.	74.80	4488.00
13.17	Providing and fixing PTMT grating of approved quality and colour.				
13.17.1	Rectangular type with openable circular lid				
13.17.1.1	150 mm nominal size square 100 mm diameter of the inner hinged round grating	28.00	Nos.	196.95	5515.00
13.18	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	6.00	hole	452.00	2712.00
	Sub-Total				579552.00
14	DRAINAGE				

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14.1	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
14.1.1	100 mm diameter	36.00	metre	443.60	15970.00
14.2	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:				
14.2.1	100 mm diameter S.W. pipe	36.00	metre	964.75	34731.00
14.3	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:				
14.3.1	150 x 100 mm size P type				
14.3.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	18.00	each	2734.20	49216.00
14.4	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
14.4.1	150 mm dia. R.C.C. pipe	42.00	metre	556.45	23371.00
14.4.2	250 mm dia. R.C.C. pipe	24.00	metre	899.80	21595.00
14.4.3	300 mm dia. R.C.C. pipe	30.00	metre	994.30	29829.00
14.5	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :				
14.5.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :				

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14.5.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	16.00	each	12770.55	204329.00
14.6	Extra for depth for manholes :				
14.6.1	Size 90x80 cm				
14.6.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	4.00	metre	8825.40	35302.00
14.7	Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :				
14.7.1	With 20x20 mm square bar	20.00	each	544.70	10894.00
14.8	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	10.00	each	553.70	5537.00
14.9	Supplying and fixing C.I. cover without frame for manholes :				
14.9.1	455x610 mm rectangular C.I. cover (light duty) the weight of the cover to be not less than 23 kg	4.00	each	1358.00	5432.00
14.10.	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
14.10.1	MD - 10				
14.10.1.1	Circular shape 500 mm internal diameter	2.00	each	1172.60	2345.00
14.11	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.				
14.11.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2.00	each	26861.90	53724.00
	Sub-Total				492275.00
15	ALUMINIUM WORK				

15.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
15.1.1	For fixed portion				
15.1.1.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	17.00	kg	495.05	8416.00
15.1.1.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	1398.00	kg	530.90	742198.00
15.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
15.1.2.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	19.00	kg	598.60	11373.00
15.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	1104.00	kg	634.45	700433.00
15.2	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.				
15.2.1	Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side	31.00	sqm	1139.30	35318.00
15.3	Providing and fixing glazing in aluminium 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 . (Cost of aluminium snap beading shall be paid in basic item):				
15.3.2	With float glass panes of 5 mm thickness (weight not less than 12.50 kg/sqm)	64.00	sqm	1505.25	96336.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

15.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.				
15.4.1	With stainless steel cover plate minimum 1.25 mm thickness	4.00	Nos.	2823.85	11295.00
15.5	Providing and fixing Brass 100mm mortice latch and lock with 6 levers without pair of handles (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	1.00	No.	528.85	529.00
15.6	Providing and fixing aluminium round shape handle of outer dia 100 mm with SS screws etc. complete as per direction of Engineer-in-charge				
15.6.1	Anodized (AC 15) aluminium	2.00	No.	107.90	216.00
	Sub-Total				1606114.00
16	WATER PROOFING				
16.1	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of :(i) Ist layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) including applying of twice (at base and top of mortar) cement slurry @ 2.2kg/m2 (each time) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound.(ii) 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions.(iii) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.				
16.1.1	Using rough kota stone.	22.00	sqm	1515.60	33343.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

16.2	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :				
16.2.1	Using rough kota stone.	37.00	sqm	2024.70	74914.00
16.3	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of:				
	(i) Ist course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.				
	(ii) IInd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.				
	(iii) IIIrd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area.				
	(iv) IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).	12.00	sqm	769.60	9235.00
16.4	Grading roof for water proofing treatment with				
16.4.1	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	1.20	cum	8042.30	9651.00
16.5	Providing and applying fibre reinforced elastomeric liquid water proofing membrane with resilient acrylic polymers having Sun Reflectivity Index (SRI) of 105 on top of concrete roof in three coats @10.76 litre/ 10 sqm. One coat of self-priming of elastomeric waterproofing liquid (dilution with water in the ratio of 3:1) and two coats of undiluted elastomeric waterproofing liquid (dry film thickness of complete application/system not less than 500 microns). The operation shall be carried out after scrapping and properly cleaning the surface to remove loose particles with wire brushes, complete in all respect as per the direction of Engineerin-Charge.	612.00	sqm	563.10	344617.00
	Sub-Total				471760.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

17	RAIN WATER HARVESTING & TUBEWELLS				
17.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.				
17.1.1	All types of soil				
17.1.1.1	300 mm dia	90.00	metre	707.75	63698.00
17.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, beyond 90 metre & upto 150 metre depth below ground level.				
17.2.1	All types of soil				
17.2.1.1	300 mm dia	50.00	metre	825.70	41285.00
17.3	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer- in-charge.	34.00	cum	2024.50	68833.00
17.4	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.				
17.4.1	200 mm nominal size dia having minimum wall thickness 5.40 mm	90.00	metre	2442.75	219848.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

17.5	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumestic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer -in-charge.				
17.5.1	200 mm nominal size dia	50.00	metre	2571.05	128553.00
17.6	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of useable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, including disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	40.00	hour	1085.05	43402.00
17.7	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.				
17.7.1	200 mm clamp	1.00	No.	2293.65	2294.00
17.8	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
17.8.1	200 mm dia	1.00	No.	357.60	358.00
	Sub-Total				568271.00
18	NEW TECHNOLOGIES AND MATERIALS				

18.1	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid door/window /Clerestory windows & other Frames/ Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/ wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 750 kg/cum, screw withdrawal strength of 2200 N (Face) & 1100 N (Edge), minimum compressive strength of 58				
	N/mm ² , modulus of elasticity 900 N/mm ² and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixed in position with M.S hold fast/lugs/SS dash fasteners of required dia and length complete as per direction of Engineer-In- Charge. (M.S hold fast/lugs or SS dash fasteners shall be paid for separately). Note: For WPC solid door/window frames, minus 5 mm tolerance in dimensions i.e depth and width of profile shall be acceptable. Variation in profile dimensions on plus side shall be acceptable but no extra payment on this account shall be made.				
18.1.1	Frame size 45 x 85 mm	81.00	metre	926.35	75034.00
18.2	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid plain flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm ² , modulus of elasticity 850 N/mm ² and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In- Charge. (Note: stainless steel butt hinges and necessary S.S screws shall be paid separately)				

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

18.2.1	30 mm thick	28.00	sqm	4346.70	121708.00
	Sub-Total				196742.00
	Total (SH:1 to 18)				63794828.00
	Estimated Cost after using correction factor on DSR 2023 on account of GST @ 0.973			x	0.973
	Total			Rs.	62072368.00
	Add Cost Index (131-107)/107 x 100 = @22.43 % on DSR 2023 (Cost Index of Bongaigaon is 131 as based 100 as on 10/2022 on DPAR'2021 and corresponds to DPAR'2023 is 107)				13922832.00
	Sub-Total (Cost of Schedule Items base on DSR'23)			Rs.	75995200.00
19	Non Schedule Items (Based on Market Rates)				
19.1	Providing and fixing machine cut, mirror/eggshell polished, Granite stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of diferent finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/swirl including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge.				
19.1.1	18mm thick Granite stone slab colour black, cherry/Ruby red etc.	26.00	sqm	4933.88	128281.00
19.2	Providing and Fixing Table top wash basin 635 x 430 x 190mm i.e. Jaquar make model no. ARS-WHT-39601 and Single Lever Basin Mixer without Popup Waste with 450mm Long Braided Hoses and C.P waste (jaquar make) model no. KUP-CHR-35011BPM or equivalant as per direction of Engiener-in-charge.	13.00	each	16114.50	209489.00
19.3	Providing and fixing Hand shower (health faucet) with 8mm dia, 1.2 metre long flexible tube & wall hook of Jaquar make (Code No. ALD-573 of Allied series) or equivalent as per direction of Engineer-in-charge.	14.00	each	1568.15	21954.00
19.4	Providing and fixing CP brass two way bib cock of Jaguar make continental series or equivallent approved quality as per direction of Engineer-in-charge.	14.00	each	2014.40	28202.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

19.5	Providing and fixing S.S. liquid soap Dispenser with Glass bottle of Jaquar make Code No. ACN-1135N or equivalent as per direction of engineer in charge.	4.00	Nos.	1410.30	5641.00
19.6	Providing and fixing ISI marked Stainless Steel sliding door bolts, of required colour or shade, with nuts and screws etc. complete of approved make as per direction of Engineer in charge ((Kich code No. PRAD12610C) or equivalent) : a) 250 x 16 mm	37.00	Nos.	999.90	36996.00
19.7	Providing and fixing ISI marked Stainless Steel tower bolts, of required colour or shade, with nuts and screws etc. complete of approved make as per direction of Engineer in charge (Kich code No. TBF3105 or equivalent) : a) 250x10 mm	21.00	Nos.	736.30	15462.00
19.8	Providing and fixing ISI marked Stainless Steel tower bolts, of required colour or shade, with nuts and screws etc. complete of approved make as per direction of Engineer in charge (Kich code No. TBF385 or equivalent) : a) 200x10 mm	58.00	Nos.	590.35	34240.00
19.9	Providing and fixing Stainless Steel handles, ISI marked, of required colour or shade, with nuts and screws etc. complete of approved make as per direction of Engineer in charge (Kich or equivalent code No. PRCH425C) : a) 2mm x 125mm	110.00	Nos.	96.05	10566.00
19.10	Providing and fixing Stainless Steel Door Stopper - Double Leg, ISI marked, of required colour or shade, with nuts and screws etc. complete of approved make as per direction of Engineer in charge (Godrej or equivalent code No. 8565) : a) Twin rubber stopper	48.00	Nos.	501.75	24084.00
19.11	Providing and fixing chicken wire mesh of 24 g x 12.5 mm hexagonal mesh in junctions of RCC members/ brick walls including fixing to RCC beams / brick masonry walls with nails etc. complete as per direction of engineer in charge.	69.00	sqm	204.15	14086.00
19.12	Providing and fixing cupboard shutter, shelves, partitions, backing or studding etc with 12 mm thick BWR ply board with necessary screw etc. all complete as per direction of Engineer in charge. 12 mm thick	48.00	sqm	1121.80	53846.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

19.13	Providing and fixing cupboard shutters. Shelves , partitions etc. with 19 mm thick water proof block board conforming to IS 1659-1990 with necessary nails and screws etc. all Complete as per direction of Engineer-in - Charge	107.00	sqm	1469.80	157269.00
19.14	Providing and fixing Channel (best make of approved quality Godrej or equivalent) for cupboard drawers including necessary cutting and making good etc. complete.Channel - 18"	49.00	Nos.	626.91	30719.00
19.15	Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete. Double strip (horizontal type)	24.00	Nos.	54.30	1303.00
19.16	Providing and fixing special quality chromium plated brass handles including necessary screws etc. complete. 75 mm	38.00	Nos.	222.46	8454.00
19.17	Geophysical investigation of ground water for deep tube well by adopting the method viz Wenner's Schlumberger's array & 2 pin method including submission of ground water survey report with recommendation stating clearly the probable maximum yield of the proposed well at the requisite depth, method of boring to be utilized & details of strata etc. from reputed consultancy.	1.00	No.	27685.50	27686.00
19.18	Providing and laying Parking tiles of size 400x400 mm or more (minimum thickness 12 mm thick make in all colours and shades in outdoor floors such as footpath, courtyard, multi modals location mm thick cement mortar 1:4 (1 Cement: 4 Coarse sand), in all shapes and patterns including grouting with white cement mixed with matching pigment etc. complete. perdirection of engineer in charge (Size 400x400)	180.00	sqm	1539.45	277101.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)

19.19	OXIDATION CHAMBER Oxidation chamber cum MNO₂ chamber for removal of Fe and suspended particles by using MNO₂ Loading capacity of vessel-400kg Loading requirement-300kg Pebbles 40-25mm-30kg, pebbles, 20-12mm-30kg, pebbles-6-2mm-30kg, carouse silex-30kg, Mno₂-180kgs Vessel dia-500mm Vessel height1200mm Shell thickness-3mm Disc thickness-4 mm MPV-40mm Moc-MSRL, Design pressure-3.5kg/cm² Flow rate-5 m³/HR *Interconnecting pipes works, and plumbing lines, valves done with upvc. Frontal Pipe Size-50mm Frontal Valve-5 Nos (Butterfly Type) Air Release Valve with Pipe- 01 No Pressure Gauge-01 Nos Sampling Cock-01Nos Painting- Internal Black Bituminous and outside 2 coat enamel. Backwash Frequency- When DP more than 0.6 kg/cm²	1.00	Job	238742.00	238742.00
19.20	DUEL MEDIA FILTERThese filters are used for removal of suspended solids.by using anthracite, filtering sand, coarse silex, fine silex, pebble's etc.Loading capacity of vessel-550 kg Loading requirement-440kgPebbles 40-25mm-30kg, pebbles, 20-12mm-30kg, pebbles-6-2mm-30kg, carouse silex-30kg, fine silex-30kg, filtering sand -200kg, anthracit-100kg Vessel dia-600mmVessel height1200mm Shell thickness-3mm Disc thickness-4 mm MPV-40mmMoc-MSRL, Design pressure-3.kg/cm² Flow rate-5 m³/hr.*Interconnecting pipes work, and plumbing lines, valves done with upvc. Frontal Pipe Size-50mmFrontal Valve-5 Nos (Butterfly Type) Air Release Valve with Pipe- 01 No Pressure Gauge-01 NosSampling Cock-01NosPainting- Internal Black Bituminous and outside 2 coat enamel. Backwash Frequency- When DP more than 0.6 kg/cm²	1.00	Job	314441.00	314441.00

19.21	ACTIVATED CARBON FILTER Activated carbon filters are used for removal of chlorine, particles such as sediment, taste and odor by using activated carbon media for odor and turbidity removal. Loading capacity of vessel-550 kg Loading requirement-420kg Pebbles 40-25 mm-30kg, pebbles, 20-12 mm-30kg, pebbles-6-2mm-30kg, carouse silex-30kg, anthracit-300kg Vessel dia-600mm Vessel height 1200mm Shell thickness-3mm Disc thickness-4 mm MPV-40mm Moc-MSRL, Design pressure-3.kg/cm2 Flow rate-5 m3/hr. *Interconnecting pipes works, plumbing lines, vales done with upvc. Frontal Pipe Size-50mm Frontal Valve-5 Nos (Butterfly Type) Air Release Valve with Pipe- 01 No Pressure Gauge-01 Nos Sampling Cock-01Nos Painting- Internal Black Bituminous and outside 2 coat enamel. Backwash Frequency- When DP more than 0.6 kg/cm2	1.00	Job	308618.00	308618.00
19.22	CHEMICAL DOSING PUMPS AND SOLUTATION HOLDING TANK Pump Type-Electronics Diaphragm Type Pump Capacity-0-6 LPH Dosing Tank-01 No, HDPE/ 100 LTR.	1.00	Job	15528.00	15528.00
	Sub-Total (Cost of Non-Schedule Items)				1962708.00
	TOTAL (A+B)				77957908.00

Correction...Nil Deletion... Nil Insertion...Nil Over writing... Nil Ch. Estt (E) AE (E) AE (C) EE(P)