

Government of India

Central Public Works Department

NIT No.59/26-27/EE(Kol)-II/Kolkata

Name of Work: Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).

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Certified that this NIT document consists of **Page No. 1 to 94** including this Index page and Schedule of Quantities- from **Page No.S-01 TO S-09 (CIVIL) & E-01 TO E-08 (ELECTRICAL)**

Draughtsman(C)
O/o EE,Kolkata-II,CPWD, Kolkata

Assistant Engineer (P)
O/o EE, Kolkata-II ,CPWD, Kolkata

APPROVED

Executive Engineer,
Kolkata-II, CPWD, Kolkata

+++++

Notice Inviting Tender
CENTRAL PUBLIC WORKS DEPARTMENT
Notice Inviting e-Tenders

The Executive Engineer, Kolkata - II, CPWD, Nizam Palace, 234/4 AJC Bose Road invites on behalf of President of India online Percentage rate bids for the following work:

NIT No. 59/26-27/EE(Kol)-II/Kolkata

Name of Work: **Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).**

Estimated Cost– **(Civil ₹ 18,18,168/- + Elect. ₹ 7,71,982/-) = ₹ 25,90,150.00**

Earnest Money–**Rs. 51,803.00**

Period of completion– **03 (Three) Months.**

Last date & time of Pre-Bid queries up to 17:00 P.M on 08.10.2026

Last date & time of submission of Bid up to 13:00 P.M on 09.10.2026

Time and date of opening of tender 13:30 PM on 09.10.2026

The bid forms and other details can be obtained from the website
<https://etender.cpwd.gov.in> or www.cpwd.gov.in

INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING FORMING PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE

The Executive Engineer, Kolkata - II, CPWD, Nizam Palace, 234/4 AJC Bose Road, Kolkata - 20 on behalf of President of India invites online Percentage rate bids from approved and eligible composite category contractors of CPWD for the following work:

S. No.	N.I.T No.	Name of work & Location	Estimated Cost put to bid	Earnest Money	Period of Completion	Last date and time of submission of bid, original EMD, copy of	Time and date of opening of tender
1	2	3	4	5	6	7	8
1	59/26-27/EE(Kol)-II/Kolkata	Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).	(Civil ₹ 18,18,168/- + Elect. ₹ 7,71,982/-) = ₹ 25,90,150.00	Rs. 51,803.00	03 (Three) Months.	09.10.2026 Up to 13:00PM	At 13:30 PM On 09.10.2026

1. 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.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <https://etender.cpwd.gov.in> or www.cpwd.gov.in free of cost.
4. But the bid can only be submitted after deposition of original EMD either in the office of the Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission and uploading the

mandatory scanned documents such as Demand Draft or Pay Order or Bankers Cheque or deposit at Call Receipt or Fixed deposit Receipt and Bank guarantee of any schedule 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/AAO), CPWD and other documents as specified. **The Contractors registered prior to 01/04/2015 on e-tendering portal of CPWD shall have to be deposit tender processing fee at exiting rates, or they have option to switch over to the new registration system without tender processing fee any time**

5. The enlistment of the contractors should be valid on the last date of submission of tenders. In case, only the last date of submission of tender is extended, the enlistment of contractors should be valid on the original date of submission of tenders.
6. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
7. The intending bidder must have valid Class-III digital signature to submit the bid.
8. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
9. Contractors can upload documents in the form of JPG format and PDF format.
10. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in pink colour and the moment rate is entered, it turns sky blue. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0" Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO). However if a tenderer quoted nil rate against each item in item rate tender or does not quote any item above / below on the total amount of the tender or any section / subhead in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
11. SC/ST contractors enlisted under Class V category are exempted from processing fee.

DECLARATION ABOUT SITE INSPECTION

To,
Executive Engineer,
Kolkata-II, CPWD
Nizam Palace, Kolkata-20.

Name of work: Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).

Dear Sir,

It is hereby declared that as per CPWD-6 FOR e-BIDDING, Para 12, Page 10 - 11 , I/ We the bidder inspected and examined the subject site and its surrounding and satisfy myself / ourselves as to the nature of the ground and sub-soil (so far as is practicable), the forms and nature of the site/ ourselves before submitting the bid, the accommodation which may require and all necessary information as to risks, contingencies and other circumstances which may influence or affect our bid have been obtained. I/We the bidder shall have full knowledge of the site and no extra charge consequent upon any misunderstanding or otherwise shall be claimed in later date.

I /We bidder shall be responsible for arranging and maintaining at own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by me/us implies that I / We have read this notice and all other contract documents and has made myself /ourselves aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.

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

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

1.	Treasury Challan/Demand Draft/Pay Order or Bankers Cheque/ Deposit at Call Receipt/FDR/Bank Guarantee of any Scheduled Bank against EMD. Copy of receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/AAO), CPWD. <u>The EMD document shall only be issued from the place in which the office of receiving division office is situated.</u>
2.	Enlistment Order of Contractor. Also all the existing eligible contractor of CPWD are allowed to participate in this tender who have given the consent to enlisting authority for change into composite category. However, they will require uploading a copy of consent letter duly acknowledged by the office of enlisting authority as well as copy of existing enlistment order.
3.	Certificate of ERP Training from any of the CPWD Regional Training Institutes (RTIs) issued through LMS (Learning Management System) in ERP.
4.	GST Registration Certificate of the State in which the work is to be taken up, if already obtained by the bidder. If the bidder has not obtained GST registration in the state as applicable , then in such case the bidder shall scan and upload following undertaking along with other 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, falling which I/We shall be responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by CPWD or GST department in this regard."
5.	Copy of receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/AAO), CPWD. <u>The EMD document shall only be issued from the place in which the office of receiving division office is situated.</u>
6.	Declaration About Site Inspection as per prescribed format Form "H" .

Note: If the above mentioned documents are not scanned and uploaded within the period of bid submission the bid shall be treated as invalid and canceled.

CPWD-6 FOR e-Tendering

1.	Percentage rate bids are invited on behalf of President of India from approved and eligible composite category contractors of CPWD for the Work of: Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B). 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 (Civil ₹ 18,18,168/- + Elect. ₹ 7,71,982/-) = ₹ 25,90,150.00 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	Conditions for Non-CPWD registered contractors only, if bids are also open to non-CPWD contractors. For works estimated cost upto tendering limit of class -1 composite category Contractor (However, for Horticulture and Furniture etc. discipline, it may be modified as per bidding limit of CPWD class I contractors of respective discipline as the case may be). Three similar works each of value not less than Rs. or two similar work each of value not less than Rs. or one similar work of value not less than Rs. (all figures rounded to nearest RS. 1 lac) in last 7 years ending last day of the month previous to the one in which the tenders are invited. Note:- For works costing above tendering limit of class –II composite category contractors but upto tendering limit of Clause-I composite category Contractor (However, for Horticulture and Furniture discipline, it may be modified as per bidding limit of CPWD class II and CPWD Class I contractors respectively of respective discipline as the case may be) when bids are open to non-CPWD contractors also, then class II contractors of CPWD registered shall also be eligible if they satisfy the eligibility criteria specified in 1.2.1 above.
1.2.2	Criteria of eligibility for CPWD as well as non-CPWD contractors, For works estimated to cost above the tendering limit of class -1 composite category Contractor (However for Horticulture and Furniture discipline, it may be modified as per bidding limit of CPWD class I contractors of respective discipline as the case may be.) Three similar works each of value not less than Rs or two similar work each of value not less than Rs.....or one similar work of value not less than

	Rs..... (all figures rounded to nearest convenient figure) in last 7 years ending previous day of last date of submission of bids. The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bid. This is applicable for 1.2.1 as well as 1.2.2 (This is not applicable for CPWD enlisted contractors of appropriate class in composite category). To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under:- I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submission of bid).
1.2.3	When bids are invited from non CPWD contractors and CPWD class II contractors as per provisions of clause 1.2.1 above, it will be mandatory for non CPWD contractors and CPWD class-II contractors to upload the work experience certificate(s) and the affidavit as per the provisions of clause 1.2.2. But for such bids, Class-I contractors of CPWD are eligible to submit the bids without submission of work experience certificate and affidavit. Therefore, CPWD class-I contractors shall upload two separate letters for experience certificate and affidavit that these documents are not required to be submitted by them. Uploading of these two letters is mandatory otherwise system will not clear mandatory fields.
2.	Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7/8 (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 03 (Three) 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 will be handed over in phased manner. OR The site for the work shall be made available in parts as specified bellow
	(ii) The details 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.
	(iii) 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 for the 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 free of cost.
6.	After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
7.	While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
8.	When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.
9.	Earnest Money in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque or Deposit at Call Receipt or Fixed Deposit Receipt (Drawn in favour of Executive Engineer, Kolkata-II, C.P.W.D, Kolkata) shall be scanned and uploaded to the e-tendering website within the period of Bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE) 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. EMD shall be made/issued only from the account of the bidder/tenderer submitting the bid/tender. EMD made/issued from the account other than that of the bidder/tenderer submitting the bid, shall not be accepted. This receipt shall also be uploaded to the e-tendering website by the intending bidder upto the specified bid submission date and time. A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of earnest money or Rs. 20 lakh, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee of any scheduled bank having validity for 6 months or more from the last date of receipt of bid which is to be scanned and uploaded by the intending bidders. The receipt of deposition of bank guarantee shall also be uploaded to the e-tendering website by the intending bidder upto the specified bid submission date and time.. Or Proforma for Earnest Money DEPOSIT Declaration as per DG OM No:- DG/CON/Misc./17 dated 02.11.2021
9A	The contractors registered prior to 01.04.2015 on e-tendering portal of CPWD shall have to deposit tender processing fee at existing rates, or they have option to switch over to the new registration system without tender

	processing fee any time. The bid shall be opened at 13:30 pm on 09.10.2026
10.	The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if : (i) The bidder is found ineligible. (ii) The bidder does not deposit original EMD with division office of any Executive Engineer, CPWD. The EMD document shall only be issued from the place in which the office of receiving division office is situated (iii) The bidder does not upload all documents (including GST registration) as stipulated in the bid document and acknowledgement of upto date filed return as per NIT Stipulation including the copy of receipt for deposition of original EMD document. (iv) 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 tender opening authority.
11.	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. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any scheduled bank/Fixed deposit receipt of any schedule bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any Scheduled Bank of any scheduled bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The Earnest Money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses / registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board 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 and Programme Chart (Time and Progress) within the period specified in Schedule F.
12.	The description of the work is as follows: Name of work: Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B). Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other

	circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.
13.	The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.
14.	Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
15.	The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
16.	The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17.	No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18.	The bid for the works shall remain open for acceptance for a period of Thirty (30) days from the date of opening of bids in case of single bid system and 03 (Three) Months from the date of opening of technical bids in case bids are invited in 2 or 3 bid system. Further If any bidder withdraws his bid before the said period or issue of letter of

	acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the rebidding process of the work. (a) If any tenderer withdraws his tender or makes any modification in the terms and conditions of the tender which is not acceptable to the department within 7 days after last date 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. (b) If any tenderer withdraws his tender or makes any modification in the terms and conditions of the tender which is not acceptable to the department after expiry of 7 days after last date 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. In case of forfeiture of earnest money as prescribed in para (a) and (b) above, the bidders shall not be allowed to participate in the rebidding process of the same work. (AS PER OM DG/MAN/393 Dt-03.01.2020)
19.	GST and all other tax as applicable, Education Cess, etc. shall be payable by the contractor and Government will not entertain any claim whatsoever in respect of the same.
20.	This notice inviting Bid shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:- a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto. b) Standard C.P.W.D. Form 7/8 or other Standard C.P.W.D. Form as applicable.
21.	For Composite Bids (As applicable in the present bid)
21.1.1	The Executive Engineer in charge of the major component will call bid 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.
21.1.2	The bid document will include following three components:
	Part A: - CPWD-6, CPWD-7 including schedule A to F for the major component of the work, Standard General Conditions of Contract for CPWD 2019 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. (CE/EE in charge of major component shall also be competent authority under clause 2 and clause 5 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.
21.1.3	The bidders must associate himself, with agencies of the appropriate class eligible to bid for each of the minor component individually.
21.1.4	The eligible bidders shall quote rates for all items of major component as well as for all items of minor components of work.
21.1.5	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 also has to sign two or more copies of agreement depending upon number of EE's in charge of minor components. One such signed set of agreement shall be handed over to EE in charge of minor component(s). EE of major component will operate Part A and Part B of the agreement. EE in charge of minor component(s) shall operate Part C along with Part A of the agreement.
21.1.6	Entire work under the scope of composite bid including major and all minor components shall be executed under one agreement.
21.1.7	Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.
21.1.8	The main contractor has to associate agency(s) for minor 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 minor component(s) within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-charge of minor component(s).
21.1.9	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 minor component. 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.
21.1.10.	The main contractor has to enter into agreement with contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to EE in charge of each minor component as well as to EE in charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.
21.1.11	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.
21.1.12	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.

21.1.13	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.
22.	The ESI and EPF contribution on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. The applicable and eligible amount of EPF & ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.
23.	Integrity pact shall be treated in the same manner as other components of the bid document. In e- tendering, the intending bidder does not sign any document physically and entire bid document is submitted through digital signature. Since IP is a part of bid document no separate physical submission is required with other documents to be submitted in the office of tender opening authority. In addition to other component of bid document, the Integrity Pact along shall also be signed between Executive Engineer and successful bidder after acceptance of bid
24.	GST or any other tax applicable in respect of inputs procured by the contractor for this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same. However, component of GST at time of supply of service (as provided in CGST Act 2017) provided by the contract shall be varied if different from that applicable on the last date of receipt of tender including extension if any.

Executive Engineer-II
For & on behalf of President of India

CPWD-7

GOVERNMENT OF INDIA, CENTRAL PUBLIC WORKS DEPARTMENT

STATE: West Bengal

ZONE: CE, Kolkata

BRANCH: B & R

Division: EE, Kolkata - II

Sub Divn: AE-I

Percentage Rate e-Tender & Contract for Works

Tender for the Work of: Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).

To be uploaded by 13:00 PM on 09.10.2026 at <https://etender.cpwd.gov.in> .

(i) To be opened in presence of bidders who may be present at **13:30 PM on 09.10.2026** in the office of Executive Engineer, Kolkata-II, CPWD, Kolkata.

TENDER

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

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

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

A sum of **Rs. 51,803.00** is hereby forwarded in cash / in Receipt Treasury Challan /Deposit at Call receipt of a scheduled bank / fixed deposit receipt of a scheduled bank/demand draft of a scheduled bank / bank guarantee issued by a scheduled bank as earnest money.

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

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

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

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

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived 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.

Signature:

Designation:

Dated: *

- To be filled in by EE

To be filled by the contractor

PROFORMA OF SCHEDULES (Civil)

(Separate Performa for Civil, Electrical & Hort. Works in case of Composite Tenders)

(Operative Schedules to be supplied separately to each intending tenderer)

SCHEDULE 'A'

Schedule of quantities (as per PWD-3) attached from -General Abstract, **S-01 TO S-09 (CIVIL) & E-01 TO E-08 (ELECTRICAL)**

SCHEDULE 'D'

Extra schedule for specific requirements / document for the work, if any. As attached in tender documents.

SCHEDULE 'E'

Reference to General Conditions of contract: GCC Maintenance Works -2023 as modified and corrected upto previous day of the last date of submission of tender.

Name of Work: Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).

Estimated cost of work : (Civil ₹ 18,18,168/- + Elect. ₹ 7,71,982/-)
= ₹ 25,90,150.00

(i) Earnest Money : **Rs. 51,803.00 (to be returned after receiving performance guarantee)**

(ii) Performance Guarantee : **(a)** 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher).
(b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.

(iii) Security Deposit : 2.5% of tendered value

SCHEDULE 'F'**GENERAL RULES & DIRECTIONS**

1. Officer inviting tender	Executive Engineer, Kolkata-II,C.P.W.D., Kolkata-20
2. Definitions:	
2(v) Engineer-in-Charge	Executive Engineer, Kolkata - II C.P.W.D., Kolkata-700020
2(viii) Accepting Authority	Executive Engineer, Kolkata - II C.P.W.D., Kolkata-700020
2(x) Percentage on cost of materials and Labour to cover all overheads and profits:	15%
2(xi) Standard Schedule of Rates	DSR 2023 with up to date correction slips issued upto last date of submission of bid.
2(xii) Department	Central Public Works Department
2 (xiii) Standard CPWD Contract Form	GCC Maintenance works-2023, CPWD Form-7/8 & as modified and corrected upto previous day of the last date of submission of tender.
Clause 1 :	
(i) Time allowed for submission of Performance Guarantee programme chart (Time & progress) & applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance	07(Seven) days

- (ii) Maximum allowable extension with late fee @ 0.1% per day, of Performance Guarantee amount beyond the period provided in (i) above in days. 03(Three) days

Clause 2 :

Authority for fixing compensation under clause 2. :Chief Engineer-Kolkata, CPWD, Kolkata or Successor thereof

Clause 2A :

Whether Clause 2A shall be applicable : NO

Clause 5 :

Number of days from the date of issued of letter of acceptance for reckoning date of start 10 days

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 of any hindrance	Available	10 days
Part B	Portions with encumbrances	No	---
Part C	Portions dependent on work of other agencies	No	---

Mile stone (S)

Mile stone (s) as per table give below .

Sl No	Description of Milestone (Financial)	Time Allowed from the date of start	Amount to be withheld in case of non-achievement of mile stone
1	Achievement of financial progress upto 1/4 th of Tendered Amount	1/4 th time of stipulated period of completion	1.25% of Tendered Amount
2	Achievement of financial progress upto 1/2 th of Tendered Amount	1/2 th time of stipulated period of completion	1.25% of Tendered Amount
3	Achievement of financial progress upto 3/4 th of Tendered Amount	3/4 th time of stipulated period of completion	1.25% of Tendered Amount
4	Achievement of financial progress upto Tendered Amount	Upto stipulated date of completion	1.25% of Tendered Amount
Or			
In the event of non-achieving of necessary progress as indicated in the table, amount @1.25 % (One percent) of tender value will be withheld for each milestone.			

Time allowed for execution of work:

03 (Three) Months.

Authority to decide:

(i) Extension of time	:	Executive Engineer, Kolkata- II C.P.W.D., Kolkata-700020 or successor thereof.
(ii) Rescheduling of milestones	:	Chief Engineer-Kolkata, CPWD, Kolkata or in his successor thereof.
(iii) Shifting of date of start in case of delay in handing over of site	:	Chief Engineer-Kolkata, CPWD, Kolkata or in his successor thereof.

Applicable clause 5 / Clause 5A : Upto 25 lakh Clause 5A is applicable

/

Above 25lakh Clause 5 is applicable

Clause 6 :

Mode of measurement Electronic Measurement Book (EMB) / CMB

Clause 7:

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

Rs. **8.63 Lakh** for Civil component or as mutually agreed upon.

Clause 7A:

Whether Clause 7A shall be applicable:

Yes / ~~No~~

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-Charge.

9 (ii) General Rules & Direction

Standard CPWD Contract Form General Conditions of Contract Maintenance Works -2023, CPWD Form 7/8 as modified & corrected upto previous day of the last date of submission of the tender.

Clause 10A:

Lists of testing equipment to be provided : As required during execution of the work
by the contractor at site lab: and decided by Engineer-In-Charge.

Clause 10B (ii):

Whether Clause 10 B (ii) shall be applicable No

Clause 10C

Component of labour expressed as percent of value of work 25%

Clause 10CC: Not applicable

Schedule of component of other Materials, Labour etc. for price escalation,

Component of civil (except materials covered under clause 10CA) /-	
Electrical construction value of work	Xm.....%
Component of Labour:-	
Expressed as percent of total value of work	Y.....%

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

Clause 11:

Specifications to be followed : CPWD Specifications 2019 Vol – I to II
for execution of work with up to date correction slips issued up to the last date of receipt of tender and additional conditions and addition specifications as attached in the tender and direction of Engineer-in-Charge.

CLAUSE 12

12.2 (c) Deviation limit beyond which clauses
12.2 (c) shall apply for building work : No Limit

Type of work : Maintenance work

Clause 16:

Competent Authority for deciding reduced rates : *CE, Kolkata & his successor thereof*

Clause 18:

List of mandatory machinery,
tools & plants to be deployed
by the contractor at site

:Will be arranged by the Agency

1. Weight balance of required capacity with required brass and iron weight.
2. Mixture Machine for cement concrete or cement mortar.
3. Slide calipers and screw gauge for measuring thickness.
4. Plumb bob, Steel tape, Vernier Calipers, Spirit level, wire gauge disc, screw driver, Moisture meter.
5. All T & P required for wood work at site for doors & windows.
6. Any other machinery, tools & plants as and when required at Site
7. List of mandatory machinery, tools & plants to be deployed by the contractor at site:-

Will be arranged by the Agency

Clause 19 C: Authority to decide penalty for each default

Executive Engineer, Kolkata-II
C.P.W.D., Kolkata-700020

Clause 19 D: Authority to decide penalty for each default

Executive Engineer, Kolkata-II
C.P.W.D., Kolkata-700020

Clause 19 G: Authority to decide penalty for each default

Executive Engineer, Kolkata-II
C.P.W.D., Kolkata-700020

Clause 19 K: Authority to decide penalty for each default

Executive Engineer, Kolkata-II
C.P.W.D., Kolkata-700020

Clause 25:

(i)	Conciliator	:	Special Director General (Kolkata)
(ii)	Arbitrator Appointing Authority	:	Chief Engineer (Kolkata)
(iii)	Place of Arbitration	:	Kolkata

Clause 32

Requirement of Technical Representative(s) and recovery Rate

(Works Above 15 lakh applicable. Vide OM No. DG/Man/322 Dated 11.06.2015)

Sl. No	Minimum Qualification of Technical Representative	Designation (Principal Technical /Technical Representative)	Minimum Expenditure	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32	
					Figures	Words
1.	Graduate Engineer Or Diploma Engineer	Project Manager cum Planning / Quality/ Site / Billing Engineer	2 years for Graduate Engineer Or 5 years for Diploma Engineer	1(one) No. Civil Engineer	Rs. 15000/- Per month per person	Rupees Fifteen thousand per month per person

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

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

Clause 38

- (i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of **Rates DSR 2023** printed by C.P.W.D.

(ii) Variations permissible on theoretical quantities:	
Cement	
For works with estimated cost put to tender not more than Rs25 lakh	3% plus / minus
For works with estimated cost put to tender more than Rs25 lakh.	2% plus / minus
(b) Bitumen All Works	2.5% plus & only & nil on minus side
(c) Steel Reinforcement and structural steel And category	Sections for each diameter, section 2% plus/minus
(d) All other materials	Nil

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

Name of Work: Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).
NIT No- 59/26-27/EE(Kol)-II/Kolkata
1. Estimated cost –(Civil ₹ 18,18,168/- + Elect. ₹ 7,71,982/-) = ₹ 25,90,150.00
2. Amount of Earnest Money Deposit -Rs. 51,803.00
3. Last date of submission of bid 09.10.2026 upto 13:00 hrs.
(* To be filled by NIT approving authority / EE 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/AAO)

Annexure-“A”**FORM OF GUARANTEE BOND FOR WATER PROOFING WORKS**
GUARANTEE BOND ON STAMPED PAPER

This agreement made this.....day of two thousand..... between M/s.....(hereinafter called the Guarantor of the one part) and the Executive Engineer,

Whereas this agreement is supplementary to the contract (hereinafter called the Contract) dated..... made between the Guarantor of the one part and Govt. of the other part, whereby the contractor inter alia, undertook to render the Buildings and structures in the said contract recited completely water and leak proof.

And whereas the Guarantor agreed to give a guarantee to the effect that the said structure will remain waterproof for ten years to be reckoned from the date after the maintenance period prescribed in the contract expires.

During this period of guarantee the Guarantor shall make good all defects and for that matter, shall replace at his risk and cost such members as may be damaged by water and in case of any other defect being found he shall render the building waterproof at his cost to the satisfaction of the Engineer-in-Charge and shall commence the works of such rectification within seven days from the date of issuing 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 and in the latter case the decision of the Engineer-in-charge as to the cost, recoverable from the Guarantor shall be final and binding.

That if the Guarantor fails to execute the waterproofing or commits breaches here under then the Guarantor will indemnify 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 supplemental 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 of these presents have been executed by the Obligor.....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 OBLIGOR in presence of –

1. _____

2. _____

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

1. _____

2. _____

PROFORMA OF SCHEDULES	CPWD
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PROFORMA OF SCHEDULES

(Separate Performa for Civil, Elect. & Hort. Works in case of Composite Tenders)
(Operative Schedules to be supplied separately to each intending tenderer)

SCHEDULE 'A'

Schedule of quantities (As per PWD-3)
NIT

As per

SCHEDULE 'B'

NIL Schedule of materials to be issued to the contractor.

SCHEDULE 'C'

Tools and plants to be hired to the contractor

NIL

SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if

NIL.

SCHEDULE 'E'

Reference to **GCC for Maintenance work 2023** with up to date amendments
Name of Work ► **AS per Major Component**

Estimated cost of work	►	As per Electrical Component.
Earnest Money	►	As per Electrical Component.
Performance Guarantee	►	As per Electrical Component.
Security Deposit	►	As per Electrical Component.
Liability Period	►	12 Months

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer inviting tender

EE[E]/KCED-I/CPWD/Kolkata

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

2(v) Engineer-in-Charge
2(viii) Accepting Authority

**EE[E]/KCED-
I/CPWD/Kolkata
EE[E]/KCED-
I/CPWD/Kolkata
15%**

2(x) Percentage on cost of materials and Labour to cover all
overheads and profits: Standard Schedule of Rates

MR /DSR 2025

2(xi)
2(xii) Department

Central P.W.D.

9(ii) Standard CPWD Contract Form **GCC 2023**

**CPWD Form 7/8 modified &
Corrected up to date .**

PROFORMA OF SCHEDULES	CPWD
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Clause 1

- (i) Time allowed for submission of Performance Guarantee from the **As per Major Component.**
- (ii) date of issue of letter of acceptance Maximum allowable extension with late fee @ 0.1% per day of performance guarantee amount the **As per Major Component.**
period provided in (i) above (1 to 10 days to be filled by NIT approving authority)

Clause 2

Authority for fixing compensation under clause 2

Clause 2A

CE - Kolkata /CPWD/Kolkata

Whether Clause 2A shall be applicable

NO

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start

10th

MILESTONE (S) AS PER TABLE GIVEN BELOW Table of Milestone (s)			
SLNo.	Description of Milestone (Physical)	Time allowed in days (from date of start)	Amount to be with-held in case of non-achievement of milestone
As per Major Component.			

Authority to decide

Time allowed for execution of work ▶

As per Major Component.

- (i) Extension of time ▶

EE[E]/KCED-I/CPWD/Kolkata

- (ii) Rescheduling of milestones ▶

EE[E]/KCED-I/CPWD/Kolkata

Shifting of date of start in case of delay in handing over of site ▶

CE - Kolkata /CPWD/Kolkata

Clause 7

Gross work to be done together with net payment /adjustment of **05 Lakhs** advances for material collected/ if any, since the last such payment for **or mutually agreed upon** being eligible to interim payment

Clause 7A

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-charge. Whether Clause 7A shall be applicable: **NO**

Clause 7B Applicable as per relevant condition in the

GCC for Maintenance work 2023, as corrected & modified up to the last date of tender submission.

Clause 10B(ii) Whether Clause 10 B (ii) shall be applicable

No

Clause 10C **APPLICABLE**

Component of labour expressed as percent of value of work **25%**

Clause 10CA **Not Applicable**

Clause 10CC **Not Applicable**

Clause 11**Specifications to be followed for execution of work****Electrical Work**

1. CPWD General Specifications for Electrical Works Part-I Internal & Part-II External - 2023.
2. CPWD General Specifications for Electrical Works Part-III-Lift & Escalators - 2003.
3. CPWD General Specifications for Electrical Works Part-IV Sub Station – 2013.
4. CPWD General Specifications for Electrical Works Part V Wet Riser & Sprinkler Systems – 2020.
5. CPWD General Specifications for Electrical Works Part VI Fire Detection and Alarm System – 2018.
6. CPWD General Specifications for Electrical Works Part VII D.G. Sets - 2013.
7. CPWD General Specifications for Electrical Works Part VIII Gas Based Fire Extinguishing System - 2013.
8. CPWD General Specifications for Heating, Ventilation & Air-Conditioning (HVAC) – 2024 -with UpToDate corrections slip as on opening of tender.

Clause 12**Type of work****Maintenance Work****Clause 12.2,12.3,12.5****Deviation Limit ► No Limit**

[Morethan than 1.25 upto 1.50 of tendered amount required approval from CE(Kolkata)]

Clause 16

Competent Authority for Deciding reduced rates.

CE - Kolkata /CPWD/Kolkata

Clause 18As required for timely execution of work as per direction of Engineer –in – charge.**Clause 19**

Addition-Definitions (xx) Adolescent Person: A person who has completed his/ her fourteenth year of age but has not completed his eighteenth year. (xxi) Hazardous works: Hazardous process/works are the works as defined in the clause (cb) of the Facto Ac 1948.

**Clause 19B
Payment of
Wages**

*The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971 and **Gazette Notification 19.01.2017 , S.O 188 (E) extra ordinary part 2 - sec. 3 (ii) amended time to time.***

Clause 19C**Clause 19D****Clause 19G****Clause 19K****Clause 19L**

Authority to decide penalty for each default

EE[E]/KCED-I/CPWD/Kolkata

Authority to decide penalty for each default

EE[E]/KCED-I/CPWD/Kolkata

Authority to decide penalty for each default

EE[E]/KCED-I/CPWD/Kolkata

Authority to decide penalty for each default

EE[E]/KCED-I/CPWD/Kolkata

The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis.

Clause 19M

The contractor shall comply with all provision(s) and guideline(s) of Sexual Harassment of

Women at Workplace (Prevention Prohibition and Redressal) Act, 2013 and amendment

Sexual Harassment of

Women at Workplace thereafter time to time or any other rules framed under any labour law affecting women worker(s).

Clause 25

Conciliator-	Special Director General (Kolkata)
Arbitrator Appointing Authority	CE - Kolkata /CPWD/Kolkata
Place of Arbitration	Kolkata

Clause 32 *Applicable***Requirement of Technical Representative(s) and recovery Rate**

Sl. No	Minimum Qualification of Technical representative	Discipline / Principal ()	Design. Technical representative	Minimum Experience	Nos.	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32	
						Figures	Words
1	Graduate Engineer or Graduate Engineer	Elect / Mechanical	Technical representative	2 years Or 5 years	1(one) No OR 1(one) No	Rs . 15,000/- on the Per	Rupees Fifteen thousand

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

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

Clause 38*Not Applicable*

On non-judicial stamp paper of minimum Rs. 100
(Guarantee offered by Bank to CPWD in connection with the
execution of contracts)

Form of Bank Guarantee for Earnest Money Deposit/Performance
Guarantee/Security Deposit/Mobilization Advance

As per DG/CON/311 Dated 20.10.2020

1	Whereas the Executive Engineer, (name of division), CPWD on behalf of the President of India (hereinafter called "The Government") has invited bids under (NIT number). dated for (name of work) The Government has further agreed to accept Irrevocable Bank Guarantee for Rs. (Rupees only) valid upto (date)* as Earnest Money Deposit (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 for Rs. (Rupees only) valid upto (date) as Performance Guarantee/Security Deposit/Mobilization Advance from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.
2	We, (indicate the name of the bank) (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs. (Rupees only) on demand by the Government within 10 days of the demand.
3	We, (indicate the name of the Bank), do hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. (Rupees only)
4	We, (indicate the name of the Bank), further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The

	paymentsomadebyusunderthisBank GuaranteeshallbeavaliddischargeofourliabilityforpaymentthereunderandtheContractor shall have no claim against us for making suchpayment.
5	We,(indicate the name of the Bank)further agree thattheGovernment 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 against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6	We,(indicate the name of the Bank), further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.
7	This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
8	We,(indicate the name of the Bank), undertake not to revoke this guarantee except with the consent of the Government in writing.
9	This Bank Guarantee shall be valid up to unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date:-

Witnesses:-

1. Signature.....
Name of address

Authorized signatory
Name
Designation
Staff code no.
Bank seal

2. Signature.....
3. Name and address

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

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

Minimum Quality Assurance Plan (for the work costing more than Rs. 10 lakhs)

1. Maintenance of Register of Tests:-

- (i) All the registers of tests carried out at Construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge at the time of issue of award letter.
- (ii) All Samples of materials including Cement Concrete Cubes shall be taken by Contractor jointly with JE in charge of work and out of this at least 50% samples shall be taken in presence of AE in charge. If there is no JE, all Samples of materials including Cement Concrete Cubes shall be taken by contractor in presence of AE in charge of work. All the necessary assistance shall be taken provided by the contractor. Cost of sample materials is to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site.
- (iii) All the test in field lab setup at Construction Site shall be carried out by the Engineering Staff deployed by the contractor in presence of JE-in –Charge and at least 50% of tests in presence AE-in-charge. At least 10% of tests shall be carried out in presence of Executive Engineer.
- (iv) All the entries in the registers will be made by the designated Engineering staff of the contractor and same should be presented before JE/AE/Divisional Engineer for their review.
- (v) Contractor shall be responsible for safe custody of all the test registers.

2. Maintenance of Material at Site (MAS) Register:-

- (i) All the MAS Registers including Cement and Steel Registers shall be maintained by Contractor which shall be issued to the contractor by Engineer-in-charge along with the award letter.
- (ii) The contractor shall get 100% test checked by JE or by AE if there is no JE after each entry of receipt of material at site in MAS register. If both JE & AE are available AE should test check at least 50% of the entries.
- (iii) Each MAS Register is checked by JE & AE at least once a week.
- (iv) Cement register shall be got reviewed by Divisional Engineer at least one in a month by the contractor for work at same station and alternate months for work at outstation.

GENERAL CONDITIONS

1. The work shall be carried out as per description of item given in the "Schedule of Quantities", General conditions, Special conditions, BIS/IRC Specifications and **CPWD Specifications 2019 Vol. I & II (with up to date correction slips)** unless and otherwise specified in individual item or items in the schedule of quantity of the work.
2. The order of preference regarding applicability of various specifications and special condition shall be as given below:
 - a) Nomenclature of items given in the schedule of quantities in the tender.
 - b) Particular Specifications
 - c) Special conditions.
 - d) General Conditions
 - e) Contract & Clauses as per Standard CPWD form 2023.
 - f) C.P.W.D. Specifications 2019 volume I to II with up-to-date correction slips.
 - g) IRC specifications. Wherever these specifications are referred for this work, the latest one at the time of issue of the tenders shall be taken into consideration
 - h) I.S. Codes or specifications. Wherever I.S. code is to be referred for this work, the latest one at the time of issue of the tenders shall be taken into consideration.
 - i) Directions of Engineer-in-charge shall be applicable where none of the above are to be applied.
3. The contractor(s) shall inspect the site of work before tendering and acquaint himself with the site conditions and no claim on this account shall be entertained by the department.
The contractor(s) shall also see the approaches to the site in case any approach from main road is required at, site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost. No extra payment whatsoever shall be made on this account.

4. The contractor(s) shall get himself acquainted with nature and extent of the work and satisfy himself about the availability of materials from kiln or approved quarries for collection and conveyance of materials, suitable location for construction of godown, store, camp, transport facilities the extent of leads and lifts.
5. The contractor shall quote the percentage above or below the estimated cost in figures and words accurately so that there is no discrepancy in figures and words and total amount. If only item is written and above or below not quoted, then it will be assumed that rates / percentage quoted is below the estimated rates. The percentage rate quoted by the contractor shall include cost of materials, labouri/c all leads, lifts and depths etc. unless & otherwise specified in the nomenclature of item or items.
6. The contractor & his work people shall observe all relevant rules regarding security promulgated in which work is to be carried out by the controlling authority of the area.
7. All the materials such as stone aggregate, screening materials , sand, bricks, cement and pipes etc. to be used in the work, shall have to be got approved from the Engineer-in-charge or his authorized representative prior to use in the work failing which work shall not be measured & paid for.
8. The contractor shall construct suitable Godown / stockyard at the site of work for safe storing of materials, like cement, bitumen and other materials, against damage by sun, rain, dampness, fire, theft etc. at his own cost. He shall also employ watch & ward personnel(s), for plants and machinery and other materials issued and arranged by him at his own cost and no extra payment shall be made on this account.
9. No tools & plants or machinery shall be supplied by the department.
10. The contractor shall make his own arrangements for electricity and water required for the execution of the work and nothing extra shall be paid for the same. However, for electrical connection, Engineer-in-charge shall recommend the application to concerned authority for Electrical connection if required. Necessary payment shall be made by the contractor

directly to the department concerned. In case the concerned authority fails to sanction the electric connection or delays the sanction of electric connection, the contractor shall make his own arrangements by providing diesel generators of adequate capacity at his own cost.

11. For water supply, contractor shall make his own arrangement including boring of tube well, if necessary, and nothing extra shall be paid by the Department for arrangement of water or on its treatment as per requirements laid down in IS: 456 / 2000 Para 5.4 or CPWD Specification 2019 Volume-I to II with up to date correction slips.
12. Roadside proper accommodation for labour / workmen, as per contract labour regulation Act, shall be provided by the contractor at his own cost & nothing extra shall be paid by the department.
13. Unserviceable materials shall have to be removed and disposed of to places as decided by the Engineer-in-charge.
14. The contractor shall at all-time carry out the works on the road in a very systematic manner without interference to the flow of traffic and consistent with the satisfactory & timely execution of the work. For all works, the contractor shall maintain a passage for traffic either along a part of the existing carriage-way under improvement or along temporary diversion constructed close to the road for this purpose as directed by Engineer-in-Charge for which nothing extra shall be paid.
15. The contractor shall also provide necessary barricade, informatory boards, lights and flagmen at either end of the execution area and at such intermediate points as required & as directed by the Engineer-in-charge at no extra cost.
16. The work shall have to be executed in Kolkata areas. Contractor(s) should inspect the site, so as to apprise himself / themselves of the site condition, before tendering. Being a Kolkata area there could be some restriction by Security agencies and the contractor has to follow and no extra claim on this account shall be entertained by the department.

17. The Executive Engineer by prior notice in writing to the contractor may reduce/increase the scope of work. In case of deviation in quantities, no extra claim except as otherwise provided in General Conditions of Contract 2023 shall be entertained by the department.

18. The contractor(s) shall submit "Time & Progress chart" for execution of work in different reaches showing activities distinctly along with Bar-Chart within fifteen days of the letter of acceptance of work in direct relation to the time stated in the contract document for completions of items of the works as per different milestone fixed indicating the forecast of date of commencement and date of completion of various items / activities kilometer wise from start point to end point of road as per agreement for adherence during execution.

If any time, it appears to the Engineer-in-charge that the actual progress of work does not confirm to the approved programme referred above, the contractor shall produce a revised programme showing the modifications to the approved programme by additional inputs to ensure completion of the work within the stipulated time.

In case the contractor fails to achieve individual milestone as specified in Schedule F, action shall be taken as per clause 5 & other relevant clauses of **the General Conditions of Contract 2023**.

19. The item of concreting/premixing shall be started / executed strictly under prior written approval of the Executive Engineer at appropriate time indicating the quantities and reaches / length and shall be liable for any consequences of wastage / damage / loss / non-payment etc.

20. The contractor has to deploy necessary Tools & Plants in required numbers to ensure smooth & timely execution of work, at his own cost & risk as per the requirement of work at different stages. The decision of Engineer-in-charge shall be final regarding use of particular T & P(s) at a particular time(s) & the contractor has to adhere the same strictly. The Contractor shall be responsible for further running and maintenance and safety of all T&P. No claim whatsoever, for any loss or damage or idle Plant & Machinery, due to insurgency, accidents, theft prevailing at site, availability of materials, availability of land,

suitable location for construction of Godown, stores and camp , transport facility including local conditions or other reasons shall be entertained by the Department.

21. The rates of materials shall be inclusive of all taxes ~~such as Sale Tax, Royalty, Octeroi etc.~~ and contractor shall be liable to pay the same direct to the concerned department. No claim on this account shall be entertained by the department.
22. In case of any calamity or injury to any labour / workmen etc. or loss / wastage of materials due to nature or insurgency, contractor shall have to bear the cost of compensation and no claim to this effect shall be entertained by the department.
23. The contractor shall keep himself ready for execution of any item / items of work / part of the item of work on emergent notice given by the Engineer-in-charge on day to day basis during rainy season.
24. Unless otherwise specified in the schedule of quantities, the rates for all items of the work shall be considered as inclusive of pumping out or bailing out water if required for which no extra payment will be made. This will include water encountered from any source, such as rains, floods, sub-soil water table being high, due to any other cause whatsoever.
25. Royalty / Octeroi at the prevalent rates and all other incidental expenditure shall have to be paid by the contractor, on all the boulders, road metal, stone aggregate, river bed shingle, earth, sand, bajri etc., collected by him for the execution of the work direct to the concerned Revenue Authority of the State or Central Government. The rates mentioned in the documents relating to this contractor are deemed to include all such expenditure and nothing extra shall be paid on this account.
26. The contractor shall maintain in good condition all work executed till the completion of the entire work entrusted to the contractor under this contract & nothing extra shall be paid on this account.
27. The work shall be executed and measured as per metric dimensions given in the schedule of quantities, drawings etc. (FPS units wherever indicated are for guidelines only).

28. The tenderer shall abide by the rules and regulations of respective State Value Added Tax / Works Contract Tax Act etc. Necessary deductions on account of taxes shall be made on the gross value of the work done from the bills of the contractor as per the provisions of above stated Acts. Necessary certificates for tax deduction at source shall be issued to the contractor by the Engineer in Charge. The decision of the Engineer in Charge regarding quantum of tax deducted at source shall be final and binding on the contractor.
29. Necessary permit etc. for utilization of forest produce would be obtained by the contractor directly from the Forest Authority. Necessary Forest Royalty Clearance Certificate (FRCC) from the Forest Authority shall be submitted by the Contractor to the Engineer-in-Charge along with the Bills for the work. Engineer-in-Charge reserves the right to deduct any sum considered reasonable towards forest royalty from the Running Accounts Bills of the Contractor, in the event on non-submission of FRCC. In case the contractor does not submit FRCC a sum considered reasonable towards payment of forest royalty would be deducted by the Engineer-in-Charge from the final bill of the work and credited to the Government accounts. The Engineer-in-Charge would determine the quantum of materials consumed on which such royalty is payable and also the rate of royalty payable. The decision of the Engineer-in-Charge shall be final and binding on the matter.
30. All test registers and material at site register shall be maintained by the Contractor which will be reviewed by the Officers of CPWD at regular intervals. These registers shall be issued to the contractor by the Engineer-in-Charge. Contractor shall be responsible for safe custody of all the test registers.
31. The contractor shall provide at his own cost suitable weighing and measuring equipment's /instruments as may be necessary at site for checking purposes. All such equipment's /instruments shall be got tested for calibration in advance from laboratory approved by the Engineer-in- Charge.
32. The work has to be carried out at different stretches and nothing extra will be payable on account of shifting of T&P, Machinery, Labour and materials etc.

33. The liquidated damages in the form of loss of HRA & License Fee for respective category of officials due to non-handing over specified number of quarters shown in Mile Stone(s) shall be borne by the Agency
34. **Clause 19 L**
The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. The verification of deployment labour will be done through biometric attendance system or any other suitable method by the Engineer in Charge. The applicable and eligible amount of EPF & ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.

SPECIAL CONDITIONS (FOR CIVIL WORK)

1. The agency is advised to inspect the site before tendering.
2. Unless otherwise provided in the Schedule of quantities the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing extra shall be payable to him on this account. Payment for centring, shuttering, however if required to be done for floor to floor heights greater than 3.5 m. shall be admissible at rates arrived at in accordance with clause-12 of the agreement if not already specified.
3. ~~One Computer operator should be made available at site with Laptop/Computer to maintain the e-Seva complains.~~
4. ~~As the work is of maintenance nature, contractor shall be ensure availability of required manpower & materials for attending the complaints as & when received by him/his authorized representative within the prescribed time schedule given below:-~~

Sl. No	Complaint Description	Time
1.	Emergency (blocked drains, no power, no water, Plumbing etc.)	6 hours
2.	Minor (cleaning of drains, water overflow, repairs to doors,-	3 days

	windows etc.)	
3.	Major (repairs to doors, windows, plumbing, internal wiring, etc.)	30 days
4.	Periodical (white washing, painting, cleaning water tanks, etc.)	60 days

4. ~~As envisioned by Hon'ble UDM, Ministry of Urban Development, an amount of ` 200 (` Two Hundred Only) shall be paid as compensation by Agency to the allottee for each day of delay in attending the complaint beyond the timeline specified above, if the delay is without any reasonable cause.~~

5. The contractor shall make his own arrangements for obtaining electrical service connection if required and make necessary payments directly to the department concerned.
6. Other agencies doing works related with this project will also simultaneously execute the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying/burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for other agencies. Conduits for electrical wiring/cables will be laid in a way that they leave enough space for concreting and do not adversely affect the structural members. Nothing extra over the agreement rates shall be paid for the same.
7. Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. the contractor shall be bound to follow all such restriction/instructions and nothing extra shall be payable on this account.
8. (a) The building work will be carried out in the manner complying in all respects with the requirements of relevant by-laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.

(b) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to bye-laws and specifications of the Municipal Body/Corporation where

C.P.W.D. specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation Authorities wherever required at his own cost.

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

9. The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
10. Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable (or) extra cement considered in consumption on this account.
11. Testing of materials:
 - (a) All the expenditure to be incurred for the testing of samples e.g. packaging, filling, transportation, loading, un-loading etc. including testing charges shall be borne by the Contractor.
 - (b) All the registers of tests to be carried out at Construction sites or in outside laboratories are maintained by the contractor, which are issued to the contractor by Engineer-in-charge.
 - (c) All samples of materials including Cement Concrete Cubes are taken jointly with Contractor by JE, AE and EE, as per percentage stipulated in the NIT or as prescribed in the CPWD Works Manual. All the necessary assistance is to be provided by the contractor. Cost of sample of materials including testing charges is to be borne by the contractor and he/she is responsible for safe custody of samples to be tested at site.
 - (d) All the test in field lab setup at Construction Site are carried out by the Engineering Staff deployed by the contractor preferably. The percentages of tests to be witnessed by the field officers are to be decided by the NIT approving authority and stipulated in the NIT keeping in view the nature of work and should form part of QA Plan. In case, no such provision is made in NIT, provisions of CPWD Works Manual shall be applicable.
 - (e) All the entries in the registers are made by the designated Engineering Staff of the contractor and same is regularly reviewed by the field officers as well as the Engineer-in-charge. Contractor is responsible for safe custody of all the test registers.
12. The structural and architectural drawings shall at all times be properly co-related before executing any work. Any discrepancy noticed shall be brought to the notice of Engineer-in-Charge for his decision. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless and otherwise given in writing by the

Engineer-in-charge.

13. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department or procured by the contractor and nothing extra shall be payable to the contractor on their accounts.
14. The full nomenclature of items shall be adopted in preparing abstract of final bill in the measurement book and also in the bill form for final bill.
15. In compliance of Clause 5.1 of GCC The contractor shall be responsible for any activity authorized or unauthorized going on within the site area handed over to him by the department for construction, development/maintenance or for any other purpose.
16. Within 15 days of award of work, the agency shall submit the method statement as how he proposes to execute the work with quality and specification, sequencing of Item including Quality assurance plan for approval of Engineer-in Charge.
17. A detailed program in the form of precedence network diagram is to be submitted to the Engineer –in-Charge within 15 days of award of work. ~~The programme chart should comply the milestone given in Schedule F.~~
- 18.(i) The contractor shall submit shop drawings of staging and shuttering arrangement and firefighting works for approval of Engineer-in-Charge. The contractor shall also submit barbending schedule for approval of Engineer-in-Charge before execution and the Engineer-in-Charge shall be competent to approve bar bending schedule.
- (ii) The contractor, through his engineer, shall ensure quality construction in a planned and time bound manner. Any sub-standard Material/Work beyond set out tolerance limits shall be summarily rejected by the Engineer-in-Charge.
19. The work shall be executed as per the programme approved by the Engineer –in- Charge and it shall be so arranged as to have full co-ordination with other agencies executing building work. No claim for idle labour shall be entertained, nor, any claim on account of the delay in completion of the building work shall be liable.
20. Contractor shall be allowed 15 days mobilization from the date of issue of letter of award for the work. During this period contractor will mobilize plant & equipment and complete other preliminaries like approval of quarry, mix design, trial mix etc. No concreting shall be done until the mix-design is approved by the Engineer –in-Charge. In

case of change of source or characteristic properties of the ingredients used in the concrete mix-design during the work, a revised concrete mix-design conducted by laboratory approved & shall be submitted by the contractor as per the direction of the Engineer –in-Charge. Nothing extra shall be paid on this account.

21. The contractor or his authorized representative should always be available at the site of work to take instructions from department officers, and ensure proper execution of work.
22. No work shall commence in the absence of contractor's Engineers and they shall certify in writing about the correctness of layout alignment of structure.
23. Royalty at the prevalent rates and all other incidental expenditure shall have to be paid by the contractor on all the boulders, metas, shingle, earth sand, bajri etc. collected by him for the execution of the work directly to the concerned Revenue Authority of the State or Central Government. His rates are deemed to include all such expenditure and nothing extra shall be paid.
24. No payment will be made to the contractor for damage caused by rains, or other natural calamity during the execution of the works and no such claim on this account will be entertained.
25. The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants of adjacent properties and to the public in general and to prevent any damage to such properties.
26. All materials which are specified to be tested at the manufacture's works shall satisfactorily pass the test in presence of the authorized representative of Engineer-in-Charge before being used in the work.
27. The work of electrification, horticulture and other internal and external services may be carried out simultaneously by other agencies with the work being tendered for against the enclosed contract documents. The contractor shall afford necessary facilities for the same.
28. **Supervision of work:**

All construction work shall be supervised by the contractor including his duly authorized engineers/representatives. Contractor shall provide materials and workmanship to the best of their representative kind, and shall be fully responsible for executing the work as per prescribed specifications, latest BIS Codes of Practice and Drawings.

29. **Quality Control:**

- (a) Contractor shall be fully responsible for quality of work be executed as per prescribed specification, relevant BIS codes and drawings.
 - (b) The Engineer-in-Charge will examine the work executed from the point of view of scope of work, inventory of fittings and fixtures and specifications for the various items before the work is finalized. If during any of the visit, use of sub-standard material or improper workmanship is noted by the Engineer-in-Charge or his superiors, the same shall also be promptly rectified on getting a written notice to do so.
30. Should there be any discrepancy due to incomplete description/ambiguity or omission in the drawings and other documents, whether original or supplementary, forming the contract, either found on completion or during currency of the installation work, the contractor shall immediately, on discovering the same, draw the attention of the Engineer-in-Charge, whose decision shall be final and binding on the contractor.
31. The contractor will not have any claim in case of any delay by the Engineer-in-Charge for removal of trees, shifting, raising, removing of telegraph, telephone or electrical lines overhead or underground, water and sewer line and other structures etc. if any, which may come in the way of the work. However, suitable extension of time can be granted to cover such delays.
32. Factory made materials & Items shall be procured only from reputed & approved manufacturer or their authorized dealers.
33. Following works are specialized works and have to be got executed through Agencies specialized in the field:
- a) Structural glazing
 - b) ACP work
34. The contractor will have to work according to the programme of the work, decided by the Engineer-in-Charge. The contractor shall also construct a sample unit complete in all respect within time specified by the Engineer-in- charge and this sample unit shall be got approved from the Engineer-in-charge before mass construction is taken up. No extra

claim what so ever beyond the payments due at agreement rates will be entertained from the Contractor on this account.

35. The contractor shall take instructions from the Engineer-in-Charge for stacking of materials in any place. No excavated earth or building material shall be stacked over areas where other buildings, roads, services of compound walls are to be constructed.
36. If as per municipal rules the huts for labour are not to be erected at the site of work by the contractors, the contractors are required to provide such accommodation as is acceptable to local bodies and nothing extra shall be paid on this account.
37. Cement bags shall be stored in separate godowns to be constructed by contractor at his own cost as per sketch which is only indicative and actual size will depend on the site requirements as per CPWD Specification 2019 (Vol.I to II). With upto date C.S and revised CPWD Specification 2019 for cement concrete, cement mortar and R.C.C. work in pursuance (IS: 456-2000) with weather proof roof and walls. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with CPWD Engineer-in-Charge of work and that of the other lock with the authorized agent of the contractor at the site of work so that the cement is removed from the godown according to the daily requirement with the knowledge of both the parties and proper account maintained in standard proforma.
38. The contractor shall be fully responsible for the safe custody of the materials even if the materials are under double lock system.
39. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials and shall construct suitable godowns, yards at the site of work for storing all other materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.
40. All materials shall be got checked by the Junior Engineer-in-Charge of the works on receipt of the same at site before use.
41. Contractor shall not divert any advance payments or part thereof for any work other than that needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e. mobilization advance, secured advance against materials

brought at site, secured advance against plant & machinery and / or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability of resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.

42. All running account bills preferred by the contractor for advance payments shall be processed only if Engineer-in-Charge is satisfied that up to date investments (excluding security deposit & performance guarantee, which are not considered as investments) made by the contractor against contracted work are more than the payments received. Accordingly, all running account bills shall be supported with an account of up to date payments received vis-à-vis up to date investments made on the work to enable engineer-in-charge are properly utilized only on the work and nowhere else.
43. Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of quantities, the work shall generally be carried out in accordance with the "CPWD Specifications 2019 Vol. I & II" with up to date correction slips and as per instructions of Engineer-in-Charge. Wherever CPWD Specifications are silent, the latest IS Codes / Specifications shall be followed and the rates should be all inclusive.

In the case of discrepancy between the Schedule of Quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed:-

- Nomenclature of item as per Schedule of Quantities
- Special Conditions.
- Particular Specifications.
- Drawings and specification mentioned in the tender document.
- CPWD Specifications-2019 (Vol.-I & II) with up to date correction slips.
- Indian Standard Specifications of B.I.S.
- Manufactures Specifications.
- Sound Engineering Practice as per the decision of Engineer-in-Charge.

44. Any reference made to any Indian Standard Specifications, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards upto last date of receipt of tenders. The Contractor shall keep at his own cost all such publications including relevant Indian Standard applicable to the work at site.

Condition for Water proofing treatment (APP)

- (a) Laying of APP membrane shall be got done through authorized applicator of the Manufacturer of membrane duly approved by the Engineer-in-Charge in writing and as per direction of the Engineer in Charge.
- (b) The contractor must produce a 5 years guarantee in prescribed proforma, and must be signed by the contractor in token of his overall responsibility. In addition 10% (Ten percentages) of the cost of **item No-NIL** would be retained as guarantee to watch the performance of the work done.
- (c) However, half of this amount (withhold) would be released after 3 years, if the performance of the work done is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days and if not attended to, the same will be got done by another agency at the risk and cost of the contractor.

HYBRIDPOLYUREA BASED WATER PROOF TREATMENT:

The contractor must associate himself with the specialized firm to be approved by the Engineer-in-Charge in writing, for Hybrid Polyurea based water proofing treatment for sunken floors and on roofs. 10 years guarantee in prescribed proforma to be supplied by the Engineer-in-Charge must be given by the specialised firm, which shall be countersigned by the contractor, in token of his overall responsibility. In addition 10% (ten percent) of the cost of these items would be retained as guarantee to watch the performance of the work done. However half of this amount (withhold) would be released after five years, if the performance of the work done is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days and if not attended to the same will be got done by another agency at the risk and cost of the contractor. However, this security deposit can be released in full, if bank guarantee of equivalent amount valid for 10 years is produced and deposited with the department. Before execution of the items of Hybrid Polyurea water proofing treatment/finishing work, the contractor must submit the following details and get the same approved by the Engineer-in-charge.

- a) The name of the specialized firm
- b) The trade names of the product which could be used.
- c) List of works where this treatment has been used.

- d) ~~Quantity of chlorides and sulphides used in the product.~~
- e) Rate/Rates quoted by the contractor shall include for all leads & lifts.

Treatment for roof surface:

- (a) The brick bats shall be from well burnt bricks. The water-proofing compound shall conform to I.S:

2645-1975. Before execution of work, water proofing compound has to be brought to site from which random sample would be got tested and a certificate of its conforming to I.S code should be produced. The water-proofing compound shall be added at the rate recommended by the specialist firm but not exceeding 8% percent by weight of cement.

- (b) The finished surface after water proofing treatment shall have minimum slope of 1 in 80. At no point

shall the thickness of water proofing treatment to be less than 65mm.

- (c) While treatment of roof surface is done, it shall be ensured that the outlet drain pipes have been

fixed and mouths at the entrance have been eased and rounded off properly for easy flow of water.

- (d) The surface where the water proofing is to be done shall be thoroughly cleared with wire brushes. All loose scales shall be removed and dusted off. The surface shall be treated with neat cement slurry admixed with water proofing compound, to penetrate into crevices and fill up all the pores in the surface. This cement slurry shall be applied at the junction of parapet and terrace slab by injection process.

- (e) After the slurry coat is laid layer of well burnt brick bats shall be laid in cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 Cement: 5 coarse sand) admixed with water proofing compound to required gradient and joints filled to half the depth. The brickbat layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300mm. Curing of this layer shall be done for 2 days.

- (f) After curing, the surfaces shall be applied with a coat of cement slurry admixed with water

proofing compound.

- (g) Joints of brick bat layer shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:4 (1Cement: 4 coarse sand) admixed with water proofing compound and finally top finished with average 20mm thick layer of same mortar and finished smooth with cement slurry admixed with water proofing compound. The finished surface shall have marking of 300x300mm false squares to give the appearance of tiles.
- (h) Curing of water proofing treatment shall be done for a minimum period of two weeks.

Measurement:

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

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

CONDITIONS FOR CEMENT

1. (a) The contractor shall procure Portland Pozzolona Cement (PPC) (conforming to **conforming to IS 1489 (Part 1) 1991**), as required in the work, from reputed manufacturer of cement having a production capacity of one million tonnes per annum or more, such as Ultra tech, ACC, Vikram, Shree Cement, Ambuja, Jaypee Cement, J. K. Cement, Century Cement etc. as approved by Ministry of Industry, Government of India, and holding license to use ISI certification mark for their product whose name shall be got approved from Engineer-in-Charge. Supply of cement shall be taken in 50 Kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS Codes. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed

from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.

(b) In addition to Portland Pozzolona cement (PPC) as specified above, use of Portland slag cement conforming to IS: 455 (Latest edition) is permitted for foundation work. Portland slag cement will also be permitted for super structure works subjected to enhancement of striping time of " form work" as per provision of para 11.3.1 of IS: 456-2000 vis-à-vis the curing time as per the decision of the Engineer-in-Charge which shall be final and binding on the contractor. However, no extra payment will be made on this account.

- 1.1 Portland Pozzolona Cement (PPC) conforming to **conforming to IS 1489 (Part 1) 1991** is permitted for foundation work and super structure works subjected to enhancement of striping time of " form work" as per provision of para 11.3.1 of IS: 456-2000 vis-à-vis the curing time as per the decision of the Engineer-in-Charge which shall be final and binding on the contractor.
2. The cement shall be brought at site in bulk supply as decided by the Engineer-in-Charge. The cement godown shall be constructed by the contractor at site of work for which no extra payment shall be made.
3. Double lock provision shall be made to the door of the cement go down. The keys of one lock shall remain with the Engineer-in-Charge or his authorized representative and the key of the other lock shall remain with the contractor. The contractor shall be responsible for the watch & ward and safety of the cement go down. The contractor shall facilitate for the inspection of the cement go down by the Engineer-in-Charge at any time.
4. The cement shall be got tested by the Engineer-in-charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor / Department in the manner indicated below.
 - (i) By the contractor, if the results show that the cement does not conform to relevant BIS codes.
 - (ii) By the Department, if the results show that the cement conforms to relevant BIS codes.

5. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by the conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
6. Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-Charge.
7. The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-charge shall get it removed at the cost of the contractor.
8. The change of the brand of cement depending upon availability in local market, if needed shall be got approved by competent authority prior to use.

CONDITIONS FOR USING PORTLAND POZZOLONA CEMENT (PPC)

General:

- 1.1 IS:456-2000 Code of Practice for Plain and Reinforced Concrete (as amended up to date) shall be followed in regard to Concrete Mix Proportion and its production as under:
 - 1.1.1 The concrete mix design shall be done as "Design Mix Concrete" as prescribed in Clause-9 of IS: 456 mentioned above.
 - 1.1.2 Concrete shall be manufactured in accordance with clause 10 of above mentioned IS:456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.
- 1.2 Minimum M25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structure.
- 1.3 The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of fly-ash mixed concrete or concrete using fly-ash blended cements (PPCs) are not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC.
- 1.4 To control higher rate of carbonation in early ages of concrete both in flyash admixed as

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

- 1.5 In environment subjected to aggressive chloride or sulphate attack in particular, use of fly-ash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, fly-ash substitution content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water/binder ratio also need to be given due consideration in such environment.
- 1.6 Wet curing period shall be a minimum of 10 days.

CONDITIONS FOR STEEL

1. The contractor shall procure TMT bars of AISI4145/Fe415D/Fe500D/Fe550D grade (the grade to be procured is to be specified) from primary steel producers such as SAIL, Tata Steel Ltd. RINL, Jindal Steel and Power Ltd. and JSW Steel Limited or any other producer as approved by CPWD who are using iron ore as the basic raw material/ input and having crude steel capacity of 2.0 million tons per annum and above.
 - a) The grade of the steel Fe 500D to be procured shall be specified as per **BIS 1786-2008**.
 - b) The secondary producers must have valid BIS licence to produce HSD bars conforming to **IS 1786: 2008**. In addition to BIS licence, the secondary producer must have valid licence from either of the firms Tempcore, Thermex, Evcon, Turbo& Turbo Quench to produce TMT Bars.
 - c) The TMT bars procured from primary producers and ISPs shall conform to manufacture's specifications.
 - d) The TMT bars procured from secondary producers shall conform to the specifications as laid by Tempcore, Thermex, Evcon, Turbo& Turbo Quench as the case may be.
 - e) TMT bars procured either from primary producers, ISPs or secondary producers, the specifications shall meet the provisions of IS 1786: 2008 pertaining to Fe 500D grade of steel as specified in the tender.
2. The contractor shall have to obtain and furnish test certificate to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work.

3. Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined under Para (1) (d) & (1) (e) above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-Charge to do so.
4. The steel reinforcement shall be brought to the site in bulk supply of 10 tonnes or more as decided by the Engineer-in-Charge.
5. The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
6. For checking nominal mass, tensile strength, bend test, re-bend test etc. specimens of sufficient lengths shall be cut from each size of the bar at random and at frequency not less than that specified below:

Size of bar	For consignment below 100 tonnes	For consignment over 100 tonnes
Under 10 mmdia. bars	One sample for each 25 Tonnes or part thereof	One sample for each 40 Tonnes or part thereof
10mm to 16 mmdia. bars	One sample for each 35 Tonnes or part thereof	One sample for each 45 Tonnes or part thereof
Over 16 mmdia. bars	One sample for each 45 Tonnes or part thereof	One sample for each 50 Tonnes or part thereof

7. The contractor shall supply free of charge the steel required for testing including its transporting cost to testing laboratories. The cost of tests shall be borne by the contractor.
8. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in Clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by condition laid therein.

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

Annexure – I
Special Conditions for Steel
(Reference para 27.2)

Sl. No	Item	Checkpoint	Remarks
1.	Steel Producer having manufacturing facilities at plant	a. Factory address and Registration No.	
		b. Certificate of manufacturing process	
		c. Refining process of steel Producer	
		c.1 BF-BOF route	
		c.2 Co-rex-BOF route	
		c.3 DRI – EAF route	
		With documentary evidence either for BOF or EAF	
		d. Steel plant having infrastructure for producing sponge iron, billete and TMT Rebars.	
		e. Production and Quality Flow Chart	
		f. Plant Evaluation and Process Verification	
		g. List of Plant & Machinery	
2.	Established	Documentary verification for:	
		a. Govt. / PSU Approvals	
		b. Supply orders of TMT Re-bars in Govt. Projects (Minimum – 5 years)	
		c. Verification of direct supply orders to any State / Central Govt. Department	
		d. User Certificate issued by any Govt. Department directly	
3.	Indigenous	Documentary evidence like:	
		a. Certificate of incorporation	
		b. Memorandum of Articles of Association	
		c. Credit rating of the company from CARE / CRISIL / ICRA should not be C/D grade (minimum last 3 year)	
4.	Reliable	a. Test Results from Govt. / NABL accredited laboratories	
		b. In-house testing facility for physical / Chemical tests (NABL accredited).	
		d. Calibration Certificates	
		e. List of Lab Equipment	
		e.1 Spectrometer	
		e.2 Computerized UTM	
5.	Use of Iron – Ore / Process iron are as basic raw materials	Verification of Iron – Ore / Process iron ore invoices	

6.	In – house rolling facility	Plant verification to identify in – house rolling facilities, production of liquid steel and crude steel	
7.	Licenses and certificates	a. ISO 9001 : 2008 Certification	
		b. ISO 14001 : 2004 Certification	
		c. OHSAS 18001:2007 Certification	
		d. IS 1786:2008 (TMT Re-bars)	
		e. IS 2830:1992 (Billets)	
8.	Product Range	TMT Re-bars FE 415/415D/500/500D/550/550D	
		CRS (Corrosion Resistant) & EQR (Earthquake Resistant)	
		TMT Re-barsSize 8 to 36 mm dia.	

Note:

DRI-EAF-> Direct Reduce Iron – Electric ARC Furnace

BF-BOF-> Blast Furnace – Basic Oxygen Furnace

COREX-BOF->COREX Furnace – Basic Oxygen Furnace

Special Condition for Painting Works

1. The Contractor shall take prior approval from Engineer-in-Charge before procurement of putty and paint (Internal and External)
2. The Contractor shall procure paint materials with valid GST invoice and submit to JE/AE CPWD for record.
3. All empty cans and bags of paint materials used for work shall be preserved at site till approval for CPWD for removal.
4. The Contractor shall inform CPWD after procurement of paint for necessary checks.
5. JE & AE shall perform 100% test check for painting works and EE shall perform 50% test check for painting works.
6. No kaccha bill or non-GST bill shall be accepted by CPWD from Contractor.
7. Batch nos. of paints shall be submitted by Contractor for record/M.A. S to CPWD.
8. Guarantee/Warranty certificate from manufacturer shall be obtained by contractor and shall be submitted to CPWD with Final bill.
9. Minimum 50% quantity of painting materials shall be brought at site by contractor before start of work.

All Painting works shall be done using roller only as per manufacturer's specification. No painting works using brush shall be allowed and payable.

PARTICULAR SPECIFICATIONS (Civil Work)

1.0 GENERAL

1.0 The work shall be executed and measured as per metric dimensions given in the Schedule of quantities, drawings etc.(F.P.S. units wherever indicated are for guidance only).

1.1 The following modifications in the above specifications and some additional specifications shall however apply:

i) All stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries either from Pakur / Rampurhator any other source to be got approved by the Engineer-in-Charge.

ii) Sand to be used for cement concrete work, mortar for masonry and plaster work shall be of standard quality. Sand shall be obtained from Pachani / Ajay River or any other source to be got approved from the Engineer-in-Charge and screened as required. The same shall consist of hard siliceous material. It shall be clean sand.

2.0 Wherever any reference to any Indian Standard Specification occurs in the documents relating to this contract the same shall be inclusive of all amendments issued their to revision thereof if, any, upto the date of receipt of tenders.

3.0 Unless otherwise specified in the schedule of quantities the rates for all items of the work shall be considered as inclusive of pumping out or bailing out water if required for which no extra payment will be made. This will include water encountered from any source, such as rains, floods, and sub-soil water level being high due to any other cause whatsoever.

4.0 Brick Work.

Bricks shall be obtained from kilns approved by the Engineer-in-Charge and shall be of size 10"x5"x3" instead of 22.9 cmx11.4cm.x7.00cm. nominal mentioned in CPWD specification for works 2019 Vol.-I to II with correction slips. Consequently the thickness of brick walls will be measured in multiple of 5" or 125 mm.

5.0 R.C.C. Work.

5.1 In respect of projected balconies, projected slabs at roof level and projected verandah, the

payment for the RCC work shall be made under the item of RCC Slabs; the payment for cantering and shuttering of such, items shall similarly be paid under the item of cantering and shuttering of RCC slab. Nothing extra shall be paid for the side shuttering at the edges of these projects balconies and projected verandah. All the proposed edge shall however be finalized as per specifications and nothing extra shall be paid for this.

5.2 The term machine batched, machine mixed and machine vibrated design mix cement concrete used in the document shall mean the concrete produced in automatic concrete batching and mixing plant and transported by transit concrete mixers (if necessary), placed in position by the concrete pumps and vibrated by surface vibrator/needle vibrator/plate vibrator, as the case may be to achieve required strength and durability.

5.3 Design mix cement concrete work shall be done as per CPWD Specifications.2019 for by using fully automatic computerized weigh batching plant conforming to IS: 4925 at site of works. The batching plant of capacity not less than 10 cum per hour should have a separate doser and admixture.

5.4 The concrete mix will be designed for minimum workability as per the table given below.

Placing conditions	Degree of workability	Slump (mm)
Lightly reinforced section in slab, beams, walls, columns, RCC Raft, column footings etc.	Low	25-75
Heavily reinforced section in slabs, beams, walls and columns.	Medium	50-100
Pumped concrete	Medium	75-100

The rates should be quoted inclusive of all materials, labourers, machineries, transporting the mix with agitation in transit mixer to the work side and depositing the mix on platforms with or without staging at required level by pumping and laying the same at specific location in the form work as per nomenclature of the item, and also inclusive of all

taxes, statutory charges, duties etc. all complete against the items mentioned in the schedule of quantities and nothing shall be paid extra on these accounts.

The cement to be used in all the concrete work should be either PPC (conforming to IS 1489 (Part 1) 1991 or Portland slag cement conforming to IS: 455 of approved manufacturers after getting the sample of cement tested and got approved from the Engineer-in-charge.

The concrete should be laid in the specific location of the form work within the initial setting time of concrete.

Maximum permissible water cement ratio of M-25 grade concrete for all R.C.C. work except piles shall be 0.50 (Zero decimal five zero)

The design mix shall be designed without use of admixtures and admixtures shall be added to improve the workability wherever required and as per the direction of Engineer-in-charge.

6. **Conditions for RCC Mix Design work:-**

The following special conditions for RCC works shall be followed:-

- (a) The cement concrete mix design shall be got done by the contractor through approved organization/testing labs.
- (b) The workability of concrete shall be as specified in para 7.0 of IS 456-2000 for all graded of concrete depending on the placing conditions/members.
- (c) Approved Plasticizers/Super plasticizers/Admixtures conforming to IS 9103 can be used for improving workability and their performance and shall be monitored as per clause 5.5 of IS 456-2000 and clause 4.1.3 of CPWD Specifications 2019.
- (d) No extra payment shall be paid for use of plasticizers.
- (e) The contractor may see and assess his requirement for establishing work shop. Automatic concrete batching plant, store as per the space available. It is made clear that no other site would be made available for these purposes and the contractor has to manage his acting his within the space available.
- (f) Concrete mix shall not be handled twice at the site of work. Either concrete shall be

pumped or through chute. For placement of concrete at various levels. Tower Crane of appropriate size capacity or concrete pump shall necessarily be deployed by the contractor. However, mechanical joist can be used by the contractor for other material.

7. FORM WORK

Basically, only steel shuttering shall be adopted in general. However, a combination of steel and shuttering ply conforming to I.S: 848-1974 and I.S: 5539 may be allowed by the Engineer-in-Charge in consideration of the special request of the contractor to maintain quality and speed of the work. In such cases the use of shuttering ply shall be permitted only for circular columns, beam sides and bottom and in other locations wherever it is felt necessary on account of difficulty in using steel shuttering in such locations. But in other areas like slab, rectangular/square columns etc. steel shuttering shall be invariably used. However, no extra payment or deduction will be admissible or made for use of shuttering ply.

7.1 To maintain the quality and speed the contractors have to arrange and bring the following minimum quantities steel cantering shuttering with necessary steel vertical props, horizontal and diagonal bracings before execution of the following items of work.

i.	Foundation and footings.	= 100 sqm.
ii.	Beams.	= 150 sqm.
iii.	Columns.	= 20 sqm.
iv.	Slabs	= 150 sqm
v.	Steel Props	= 50 nos.

The aforesaid quantities of shuttering materials should be kept at site for execution of the columns, suspended floors and beams at the upper floor levels.

7.2 To maintain the quality and speed the contractors have to arrange and bring the shuttering materials at site for execution of the works of one floor at a time.

8.0 ALUMINIUM WORK:

8.1 Before commencement of the work, the contractor shall co-relate all relevant structural, architectural, detailed drawings of aluminium doors, windows etc. and service drawings and shall satisfy himself that the information available there form is complete and unambiguous. The contractor shall be responsible for any error/omission owing to any discrepancy in the drawings, which has been overlooked by him and or had not been brought to the notice of the Engineer-in-Charge before execution.

8.2 Material:

8.2.1 Inspection of materials or works: All materials brought to the site by the contractor for use in the work, as well as fabricated components shall be subject to inspection and approval by Engineer-in-Charge. The contractor shall be required as directed by the Engineer-in-Charge, to get necessary tests carried out on materials components at his own cost from the laboratories/test houses, approved by the Engineer-in-Charge.

- 8.2.2 Manufacturer's Test Certificate: The contractor shall, if required by the Engineer-in-Charge, produce manufacturer's test certificates for any material or particular batch of materials supplied by him. The tests carried out shall be as per relevant specifications/Indian Standard Code.

8.3 **Aluminium Sections:**

- 8.3.1 Aluminium sections to be used for doors, windows, ventilators, fixed glazing etc. shall be manufactured by reputed companies such as Hindalco, Jindal, Indian Aluminium Company, NALCO satisfying the design and specification criteria of relevant components and shall be subject to approval of the Engineer-in-Charge.
- 8.3.2 The aluminium extruded sections shall conform to IS Designations HEIWP/HVIWP alloy, with chemical composition and technical properties as per I.S: 733 and IS: 1285.
- 8.3.3 For sectional weight, tolerance limits shall be (-) 0.5%.
- 8.3.4 Approval of samples: No work shall commence before samples are approved. Samples of un-anodised as well as anodized and electro coloured aluminium sections, neoprene gaskets, thermal barrier sections, glass, screws, hardware and any other material or components requiring approval of samples in opinion of Engineer-in-Charge shall be submitted for his approval. These samples will be retained as standards of materials and workmanship till the completion of work. Anodising and electro colouring of aluminium section and fabrication shall be got done from the factory as approved by the Engineer - in - Charge.
- 8.4 Fabrication:
- 8.4.1 Contractor shall prepare detailed shop drawings of his proposal using suitable sections based on architectural design/drawings, adequate to meet the requirement/specifications laid down in this tender document. These detailed shop

drawings shall be got approved from the Engineer-in-Charge before taking up the fabrications. Actual measurement of each opening shall be measured before fabrication of framework. Aluminium shall be fabricated in the factory to the extent possible and feasible, only adjustment, joining, assembling and fixing shall be done at the site of work.

- 8.4.2 All hardware used shall conform to the relevant specifications and as per samples approved by the Engineer-in-Charge. Design, quality, type, number and fixing of hardware shall be in accordance with architectural drawings and as approved by the Engineer-in-Charge.
- 8.4.3 All doors, windows, ventilators and glazing etc. shall be made completely leak proof against water and air using neoprene gaskets and silicon sealants to the satisfaction of the Engineer-in-Charge.
- 8.4.4 The frames shall be as per architectural drawings and the corners of the frame shall be true to right angles. Both fixed frames and open able shutter frames shall be fabricated out of sections which have been cut to length, mitred and mechanically jointed for satisfactory performance. All members shall be accurately machine milled and fitted to form hairline joints. The jointing accessories such as cleats, brackets, screws etc. shall be of such materials as not to cause any bimetallic action. Nothing extra shall be paid for jointing accessories.
- 8.4.5 Mixed joints of the doors, windows, ventilators, shutters and frames shall be either corner crimped or fixed with self-tapping stainless steel screws of approved make and quality to heavy duty extruded aluminium cleats and sealed with silicon sealant, for which nothing extra shall be paid.
- 8.4.6 Verticals of the frame shall be embedded in the floors, wherever required upto 50mm including cutting and making good of the floor, for which nothing extra shall be paid.

8.5 **Fixing:**

- 8.5.1 The screws used for fixing aluminium frames to masonry walls/RCC members and aluminium members to another aluminium members shall be stainless steel of approved make and quality. Threads of machine screws used shall conform to IS : 4218.
- 8.5.2 The gap between frames and sill, jamb or soffit, shall be filled with approved polysulphide sealant to ensure complete water tightness. The sealant shall be of such approved colour and composition that it would not stain the masonry/RCC work. It should not set or flow and shall not set hard or dry out under any conditions of weather. The silicon sealant shall be used as required and shall match the colour of the aluminium sections. Any excess sealant shall be removed/cleared. Nothing extra shall be paid for the above.
- 8.5.3 Fixing of glass panes should be designed in such a way that replacing damaged/ broken glass panes is easy without having to remove or damage any members or interior finishing materials.
- 8.6. Anodising/Electro Colouring:
- 8.6.1 Aluminium sections shall be anodised as per IS: 7088 - 1973. Anodising to be done as per Grade AC-15 and shall not be less than 15 microns thick when measured as per IS: 6012, and electro colour with colour fastness rating no.8 of IS: 1868. Colouranodising shall be done only by electro colour process. No visual variation in colour shall be permitted.
- 8.6.2 The anodic coating shall be properly sealed by steam or by boiling in deionised water as per IS: 1868 and or IS: 6057. Sealing quality shall be tested in accordance with the relevant standards. Nothing extra shall be paid on that account.
- 8.6.3 The contractor shall satisfy himself by 100% checking in the factory that the thickness of the anodic coating is found to be minimum 15 microns and sealing quality appropriate

everywhere. The testing shall be done by 'eddy current method' as per IS: 6012. If thickness is found substandard, the material shall be rejected. Requisite tests shall also be carried out at site as instructed by the Engineer-in-Charge. Contractor shall arrange all the equipment's required for these tests at site. Nothing extra shall be paid for the same.

8.6.4 All anodized aluminium works shall conform to relevant IS standards relating to materials, workmanship, fabrications, finishing, erection, installation etc. In this connection, IS codes including IS: 1868 – 1982, IS: 733 – 1983, IS: 1948-1961, IS: 7088-1973, 6012-1970, IS: 1285-1975, IS: 740-1975 are considered relevant and applicable.

8.6.5 A thick layer of clear transparent lacquer based on methacrylates or cellulose styrate shall be applied on the anodised sections, before they are brought at site. The lacquer shall be

Removed after installations are complete or as an alternative, the exposed surface of the aluminium sections shall be provided with gummed paper tape protection. After fixing and assuring of proper functioning of doors, windows etc., such protective layer shall be cleaned out/removed. Nothing extra shall be paid for above to the contractor.

8.7 **Glazing:**

8.7.1 All glass panes shall be retained within aluminium framing by use of exterior grade neoprene gaskets even though PVC gaskets may be mentioned in the schedule. No water leakage shall occur on the interior even if water penetrates exterior grade neoprene gaskets. Use of glazing or caulking compounds around the perimeter of glass will not be permitted. All fixed glass panes shall be supported by setting blocks. There shall be no whistling or rattling. Before installation of glass, contractor shall ensure the following: (a) All glazing rebates shall be square, to plumb, true to plane, dry and free from dust, (b) Glass edge shall be clean and cut to exact size, (c) glazing shall provide such thermal expansion and contraction of components, as will be caused by the temperature variations inside and outside without causing buckling stress on glass, detrimental effect on structural elements and components.

- 8.7.2 Samples of typical glazing shall be made and got approved by the Engineer-in-Charge before mass installation taken in hand.
- 8.7.3 Glass in doors, windows, ventilators and fixed glazing etc. shall be of Modi, Atul, Triveni, Asahi, Saint Gobain, Pilkington make as approved by the Engineer-in-Charge.
- 8.7.4 4mm (10.00 kg/sqm) thick glass panes shall be provided for openings not exceeding 0.5 sqm. Openings exceeding 0.5 sqm. in size shall be provided with 5.5 mm. to 6.00 mm thick (13.75 kg. to 15 kg/Sqm.) glass panes unless specified otherwise.
- 8.7.5 Panel inserts shall be exterior grade boiling water proof particle board of Novapan, Bhutan Board, Kitlam, Green Lam make.
- 8.7.6 Fitting and fixture shall be of best quality of Classic, Adarsh as approved by the Engineer-in-Charge.
- 8.8 **Protection and Cleaning:**
After erection and removal of protective layer, all aluminium works including glass panes shall be washed with a suitable thinner and water to give a uniform clear appearance free from any marks and/or blemishes.
- 8.9. **Measurements:**
- 8.9.1 For aluminium framework, the length of each member of the frame shall be measured correct to half centimetre along the center line of the member. The weight shall then be calculated on the basis of unit weight specified in the manufacturer's catalogue. The weight shall also be calculated on the basis of the unit weight of the corresponding sections specified in the approved drawings.
- 8.9.2 For purpose of payment, the least of the two weights calculated as per 8.9.1 above shall be considered subject to the condition that actual weight per meter of the respect

sections is not less than the weights calculated above. In case the actual weight per meter is less, the payment then shall be made on the basis of actual weight per meter.

- 8.9.3 For glazing and fixed laminated inserts, actual length and breadth of glass/laminated board shall be measured correct to half a centimetre and area calculated in square meters correct to two places of decimal.
- 8.9.4 Weight of cleats, angles, brackets, packing pieces, separators, nuts, bolts, washers, screws and other fixtures etc. which shall be required for fabrication and erection of aluminium work shall not be considered for the purpose of payment.
- 8.9.5 Rate: The rate shall include the cost of labour & materials incurred in all the operation described above.

9.0 Wood Work

The samples of species of timber to be used shall be deposited by the contractor with the E.E. before commencement of the work. The contractor shall produce cash vouchers and certificate from standard kiln seasoning chemically pressure treatment plant operators about the timber section to be used on the work having been kiln seasoned chemically pressure treated by them, failing which it would not be to accept as kiln seasoned & chemically pressure treated.

9.1 Factory made shutter, as specified shall be obtained from factories to be approved by the Engineer-in-Charge and shall conform to IS: 2202 (Part-I) 1977. The contractor shall inform well in advance to the Engineer-in-Charge the names and address of the factory where from the contractor intends to get the shutters manufactured. The contractor will place order for manufacture of shutters only after written approval of the Engineer-in-Charge in this regard is given. The contractor is bound to abide by the decision of the Engineer-in-Charge and recommend a name of another factory from the approved list in case the factory already proposed by the contractor is not found

competent to manufacture quality shutters. Shutters will, however, be accepted only, if this meet the specified tests. The contractor will also arrange stage-wise inspection of the shutters at factory by the Engineer-in-Charge or his authorised representative. Contractor will have no claim if the shutters brought at site are rejected by Engineer-in-charge in full lot due to bad workmanship/quality. Such shutters will not be measured and paid and the contractor shall remove the same from the site of work within 7 days after the written instructions in this regard are issued by Engineer-in-charge or his authorised representative.

10.0 **STRUCTURALSTEEL WORK:**

- 10.1 The steel doors, windows, ventilators and composite units shall be got fabricated in workshop approved by the Chief Engineer concerned.
- 10.2 The M.S. plate clamps 15x6mm.Thick for holding arrangements are to be provided and added as per site conditions. The rate is inclusive of the cost of such clamps.
- 10.3. All welded steel work shall be tested for quality of weld as laid down in IS: 822-1970 before actual erection, unless otherwise specified in the nomenclature of the item.

11.0 **WATER SUPPLY SANITARY INSTALLATION:**

- 11.1 The S.C.I pipe and G.I pipe wherever necessary shall be fixed to RCC columns, beams etc. Withdrawlplugs and nothing extra shall be paid for this.
- 11.2 The contractor shall be responsible of the protection of the sanitary and water supply fittings and other fittings and fixtures against pilferages and breakage during the period of installation and thereafter until the building is handed over.
- 11.3 **Sunken Flooring:**
The rate of items of flooring is inclusive of providing sunk flooring in W.C, bathrooms, kitchen etc. and nothing extra on this account is admissible.

12. **WATER PROOFING:-**

- 12.1 The work shall be got executed as per CPWD or manufactures' specifications and from the specialized agency as approved by the Engineer in -Charge.
- 12.2 Contractor shall also submit the names of water proofing specialist alongwith information about their technical capabilities and list of similar works executed by the specialized agency in the past for the approval of Engineer-in-charge within 30 days from the date of award of work.
- 12.3 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approval of the make by Engineer-in-charge in writing. Materials shall be kept under double lock and key and proper account of the water proofing compound used in the work shall be maintained. It shall be ensured that the consumption of the compound is as per specified requirements.
- 12.4 The finished surface after water proofing treatment shall have adequate smooth slope as per the direction of the Engineer-in-charge.
- 12.5 Before commencement of treatment on any surface, it shall be ensured that the outlet drain pipes /spouts have been fixed and the spout openings have been chased and rounded off properly for easy flow of water.
- 12.6 **GUARANTEE BOND FOR ALL WATERPROOFING ITEMS:-**
Ten years Guarantee bond in prescribed Performa (**Annexure-A**) given in the tender document shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability/liabilities under the guarantee bond .However, the sole responsibility about efficiency of water proofing treatment shall rest with the building contractor. **10% (Ten percent)of the cost of water-proofing work shall be retained as Security Deposit and the amount so deducted would be released after 10(Ten)years from the date of completion of the entire work under the agreement, if the performance of the treatment is found satisfactory.** If any defect is noticed during the guarantee period, the contractor shall rectify it within 15 days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor .However, this security deposit can be released in full ,if bank Guarantee or FDR of equivalent amount for Full 10(Ten) years is produced and deposited with the department.
- 12.7 **The entire water proofing work on sunken slab so fall toilets, roof slabs shall be video recorded covering all the operations/ activities such as surface preparation to the final layer of water proofing coating. The video clippings shall be submitted to Engineer-in-charge along with**

monthly progress report during each month. Nothing extra shall be paid towards to cost of video recording and submission of DVD disk /pen drive consisting the video clippings.

12.8 Curing of water proofing treatment shall be done for a minimum of ten days.

13. VARIATION IN CONSUMPTION OF MATERIALS:

The variation in consumption of material shall be governed as per CPWD specification and clauses of the contract to the extent applicable. The following specific clauses shall govern the variation in consumption of pig lead.

14.0 VARIATION IN CONSUMPTION OF PIG LEAD:

14.1 The pig lead for caulking of joints of SCI pipes shall be issued as per theoretical consumption for SCI pipes of size 100mm, 75mm, 50mm at 0.98kg, 0.88kg, and 0.77 kg. per joint respectively. Over and above the theoretical quantities of lead as worked out, variation of 5% shall be allowed for wastage etc. Any difference between the actual consumption of pig lead and theoretical consumption worked out on the above basis i/c the authorised variation shall be recovered at rates in schedule 'B' plus 10% in case material issued by department. Where the pig lead is arranged by the contractor, in case variation is on higher side 5% will be allowed. In case the variation is on lower side, the quantity of pig lead used less shall be recovered from the contractor at market rate to be determined by Engineer-in-Charge whose decision in the matter will be final.

The theoretical quantity of cement to be utilised in item of concrete involving use of single aggregate and mixed by volume batching shall be computed on the basis of the co-efficient for cement to be used in different items of the work provided in DSR 2021 reducing each of the co-efficient by 5%. However, where the concrete is mixed by weight batching no such reduction shall be made from theoretical co-efficient given in DSR 2021 for concrete with crushed stone aggregate.

15. TESTING OF MATERIAL:

(a)	The contractor shall procure all the materials in advance so that there is sufficient time for testing and approving of the material and clearance of the same before use in work.
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(b)	In case of concrete and reinforced concrete work, the contractor shall be required to make arrangement for carrying out compression strength tests at his own cost. He shall render all assistance for the preparation of cubes, safe custody of the same proper curing and carriage upto the laboratory where the test is to be performed. The cube tests can be performed at any laboratory approved by the Engineer-in-Charge.
(c)	Time allowed for execution of the work provided in clause 5 of Schedule 'F' is inclusive of the time required for any kind of testing of materials and preparation of Design mix of cement concrete for all R.C.C. work, time required for initial load testing / routine load testing of piles and time required for testing of weld etc.

16. **STRUCTURAL REPAIR WORK:**

The contractor must associate himself with the specialized firm to be approved by the Engineer-in-Charge in writing, for structural repair work. 10 years guarantee in prescribed proforma to be supplied by the Engineer-in-Charge must be given by the specialized firm, which shall be countersigned by the contractor, in token of his overall responsibility. In addition 10% (ten percent) of the cost of these items would be retained as guarantee to watch the performance of the work done. However half of this amount (withhold) would be released after five years, if the performance of the work done is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days and if not attended to the same will be got done by another agency at the risk and cost of the contractor. However, this security deposit can be released in full, if bank guarantee of equivalent amount valid for 10 years is produced and deposited with the department. Before execution of the items of structural repair work, the contractor must submit the following details and get the same approved by the Engineer-in-charge.

- a) The name of the specialized firm

- b) The trade names of the product which could be used.
- c) List of works where this treatment has been used.
- d) Quantity of chlorides and sulphides used in the product.
- e) Rate/Rates quoted by the contractor shall include for all leads.

17. **MARBLE STONE SLAB WORK:**

- 17.1 Marble stone work in flooring and other location is to be executed as per direction of Engineer-in-Charge for which nothing extra will be paid.
- 17.2 The size of tiles/marble stone/Granite stone in dado/skirting is to be provided as per direction of Engineer-in-Charge.
- 17.3 Best quality Green Marble for risers, best quality white marble for treads and entrance verandah and for entrance lobby and corridor- 15% best quality Green Marble as border as design & rest best quality white marble.

18. **WARRANTY CARD WHEREVER APPLICABLE**

- 18.1 Wherever applicable, the product which comes with manufacturer's warranty/guarantee shall be availed by the agency and such warranty / guarantee should be handed over to the Engineer-in-Charge.

19. **VITRIFIED TILES** – The vitrified tiles will be of double charged and same design, colour, pattern & quality as approved by Engineer- in- charge

- 20. Ceramic Tiles-The Ceramic tiles will be of the same design, colour, pattern & quality as approved by Engineer- in- charge. The minimum size of ceramic wall tiles is 200x300 mm and floor tiles 300x300 mm or as approved by Engineer-in-charge

- 21. Exterior Acrylic with silicon additive Paint- The paint should be anti-fungal, anti- algae, water repellent, anti-dust etc. as approved by Engineer-in-charge.

General Conditions and Specifications for Internal Electrical Installations.

1. General
- 1.1 The work shall be generally carried out in accordance with schedule of quantities and the following specifications and conditions.
 - a. CPWD general specifications for electrical work Part-I internal-2023, as amended up to date.
 - b. CPWD general specifications for electrical work Part-II external-2023, as amended up to date.
 - c. Commercial and additional conditions for this work.
 - d. The Indian electricity Act, 2003 as amended up to date.
 - e. Indian electricity rules 1956 amended up to date.
- 1.2 The Department shall not issue any T&P and nothing extra shall be paid on account of this.
- 1.3 **Location of work ► IEST, Shibpur, Howrah.**
2. Rates:

The rates quoted by the tenderer, shall be firm and inclusive of all taxes (Including works contract tax, labour welfare cess) GST, Octroi, duties and levies and all charges for packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc at site i/c temporary constructional storage, risks, over head
3. Completeness of tender:

All sundry equipment, fittings, unit assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections, and all other items which are use full and necessary for efficient assembly and installation of equipment and components of the work shall be deemed to have been included in the tender irrespective of the fact whether such items are specifically mentioned in the tender documents or not.
4. Storage and Custody of Materials:

The agency has to make his own arrangement for storage, watch and ward of the stores. Their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department.
5. Care of the Building:

Care shall be taken by the contractor while handling and installing the various equipments and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his cost all unwanted and waste materials arising out of the installation from the site of work.
6. Completion period:

The completion period indicated in the tender documents is for the entire work of supplying, installation, testing, commissioning and handing over of the entire installation to the satisfactory of the Engineer-in-Charge.
7. Performance Guarantee:
 - a. The tenders shall guarantee among other things, the following visa-a-vis specifications.
 - b. a. Quality, strength and performance of the materials used.
 - b. Satisfactory operation during the maintenance period.
 - a. Defect Liability Period:

The entire installation in general shall be guaranteed for a period of 12 months from the date of completion. Any defective materials and equipment shall be replaced free of cost at the direction of the Engineer-in-Charge.
 - b. All the LED bulbs/LED Fittings shall be Guaranteed for a period of 5 years from the date of completion of work and handing over. A letter from the manufacturer of the LED luminaries regarding the back to back arrangement for performance of this guarantee clause shall be submitted at the time of supply of LED fittings.
 - bi) 50% of the performance guarantee shall be refunded to the contractor soon after the completion of the work and recording of the completion certificate.
 - bii) 50% of the Performance Guarantee shall be retained as Security Deposit.
 - biii) 50% of the Performance Guarantee retained as Security Deposit plus 2.5% Security Deposit already deducted from each running bill (Total 2.5 + 2.5 = 5%) shall be refunded year wise proportionately.

9. **Power Supply:**
No power supply for the purpose of carrying out the work, except for testing and commissioning, shall be provided by the department.
10. **Data and Programme to be furnished by the tenderers:**
The Contractor shall prepare the programme chart for the execution of the work showing clearly all activities from the start of work to the completion required for the completion of the work within the stipulated period and submit the same to the Engineer-in-Charge within fifteen days after the issue of letter for commencement of the work. The contractor shall also submit monthly programme and progress report and update / re-schedule the same every month. These shall be submitted by the contractor in soft copy as well as besides forwarding hard copy of the same.
11. **Extent of work:**
- 11.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. Minor building works necessary like making of opening in walls or in floors and restoring to their original condition, finish and necessary grouting etc as required to be undertaken.
- 11.2
12. **Compliance with Regulations and Indian Standards:**
- 12.1 All work shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to this work. In particular, the equipment and installations shall comply with the following:
 - a. Factories Act.
 - b. Indian Electricity Rules.
 - c. IS & BS Standards as applicable.
 - d. Workmen's compensation Act.
 - e. Statutory norms prescribed by local bodies.
13. **Indemnity:**
The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer due to the above.
14. **Order of Preference:**
The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer due to the above.
15. **Verification of Correctness of Material at Destination:**
The contractor shall have to produce all the relevant records to certify that the genuine material from the manufacturer has been supplied and erected.

16. **Order of Preference:**
Should there be any difference or discrepancy between the description of items as given in the schedule of quantities, technical specifications for individual items of work (including additional and commercial conditions) and IS codes etc., the following order of preferences shall be followed:
- Schedule of quantities.
 - Commercial and additional conditions for this work.
 - General conditions of contract for CPWD works.
 - Drawings
 - CPWD General Specifications.
 - Relevant ISI or any other International code in case is not available.
17. The main contractor shall also enter into a 'Memorandum of understanding' with the approved associate contractor on Non-Judicial Stamp Paper as per the enclosed proforma and submit this 'MOU' duly completed (Duly Signed by him and the associated Contractor) before commencement of work.
18. Executive Engineer (Elect.) shall be the Engineer-in-Charge as far as electrical works are concerned.
19. The main agency shall be responsible for all acts of omissions and submission of the electrical contractor or sub-contractor engaged by him, even with approval of department.
20. Approval of the Engineer-in-charge shall be taken well in advance for all the material to be supplied and used in all the works by the contractor.
21. The contractor has to make his own arrangements for stores and watch and ward and no extra claim for this will be entertained.
22. Running payment for electrical/mechanical components shall be made by the EE(E) directly to the main contractor. The main contractor shall make the payment to associated contractor within 15 Days of receipt of each running account payment.
23. **Payments Terms:**
On account payments for part work (After stipulated and statutory deductions) as assessed by the Engineer-in-Charge for the applicable items in the contract shall be payable at par or not exceeding the percentage indicated against the stages of work.
- [A] Items connected with point wiring, circuit wiring, sub-main wiring, power point wiring and light plug wiring.

SL	Stage of work	Percentage of Rate
A	On laying of conduits with accessories, switch boxes, etc.	40%
B	On drawing of wires / c terminations, switches, sockets, cover plates etc	40%
C	On completion of installation, testing and commissioning.	15%
D	At the time of payment of final bill.	5%

- [B] Items of Lighting Fixtures, MV Panels, MCBs, MCB DBs, Rising Main/Ceiling Fan/AC Machine/Fire Alarm System/UPS/UG Cable/LED Fitting/Camera/ALL audio video unit etc

SL	Stage of work	Percentage of Rate
A	On initial inspection of material and delivery at site in good condition on pro-rata basis.	70%
B	On completion of installation on pro-rata basis.	15%
C	On completion of testing and commissioning.	10%
D	At the time of payment of final bill	5%

For LED Fittings Part Payment/Final payment will be made on submission of Guarantee Certificate for 5 (five) years from Authorised signatory and

For other items, the par rates will be decided by the Engineer-in-Charge of the work and shall be binding on the contractor.

24. The main contractor shall be responsible for coordinating the activities of all works and will ensure progress of works as per laid down program.
25. The main contractor and/or his associated electrical contractor or his representative is bound to sign the site order books as and when required by the Engineer-in-charge and will comply with the remarks therein.

26. The contractor shall make his own arrangement at his own cost for electrical/general tools and plants required for the work.
27. The connections, interconnections, earthing and loop earthing shall be done by the contractor whenever required to be done for energisation of the installation and nothing extra shall be paid on this account.
28. The contractor must be able to work on concrete slabs / walls as and when required and in complete coordination with the civil works. Cutting of chases in the plastered wall shall in no case be allowed. The contractor shall fix conduits and boxes in the walls soon after the brick work is completed and finish the case to rough surface with proper cement sand mixture. Only in exceptional cases e.g. where cutting of plastered surface can not be avoided it will be contractor's responsibility to ensure that plastering is done to match the original finish at no extra cost.
29. The contractor shall remove all the debris due to the electrical works from the site as soon as the work is completed.
30. The wiring and conduit routes shall be marked by the contractor in the drawing first, and shall be got approved from Engineer-in-Charge.
31. Some light points in lobby/corridors/staircase/lift shaft etc are group controlled which will be measured as per specifications.
32. The rupturing capacity of the MCB's shall be 10KA. The MCB's shall have ISI mark. Quantities of MCBs of different rating of 6 amps to 32 amps shall be brought in consultation and after obtaining approval from the Engineer-in-Charge.
33. All the MCCB's shall be rated for Ics = Icu
34. The copper wire to be used on this work shall be FRL type and ISI marked.
35. The make of switch boxes shall be the same as that of switches. Only the required knockout of the switch boxes are to be removed for terminating the conduit pipes with PVC glands / check nuts.
Make of MCB/MCCB shall be the same as the make of MCB DB.
All the switch boxes, MCB DBs are to be covered with plastic sheet / petroleum gelly when installed in brick work till the plastering / painting is done to avoid sticking of cement plaster / splashes of the paint. Cement plaster / paint are to be cleaned immediately after plaster to avoid rusting of switch boxes and MCB DBs. The plastic sheet is to be removed at the time of handing over.
All pin 15 amp and 6 pin 15/16 amp power sockets, fan regulator shall be of 2/3 module type.
36. The electrical work shall be carried out by the contractor, side by side with the progress of the civil works.
37. The contractor shall on demand by the Engineer-in-charge, furnish the proof to the satisfaction of Engineer-in-charge regarding purchases of wires, modular switches & accessories, MCB's, MCB DB, fittings, accessories and other items, from the manufacturer's authorization outlets.
38. All PVC conduits accessories shall be of the same make as conduits. The conduit shall be terminated at switch boxes/metallic junction boxes with suitable PVC glands/check nuts.
39. Cutting of brick wall shall be with chase cutting machine only. All repairs and patch work shall be neatly carried out to match the original finish and to the entire satisfaction of the Engineer-in-charge.
40. All the sub main and circuit wiring includes loose wire for connections inside switch boxes and MCB DB's. No payment for these wires shall be made. However wires within the cubical panel will be measured and paid under relevant item of work. All the circuit/sub main wiring are to be suitably numbered with stickers/marker pen at LT panel, MCB DB's switch boards (ON backside of cover plate) for ease of maintenance. Nothing shall be paid extra on this account.
41. The contractor shall submit the completion plan separately in triplicate on blue print with one set on tracing "Cloth" as per clause-8 of the contract within 30 days of the completion of work. In case, the contractor fails to submit the plan, he shall be liable to pay a sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs. 25,000.00.

42. To facilitate drawing of wires, 18SWG GI fish wire shall be provided along with laying of recessed conduit for which no extra payments shall be made. Conduits laid for other services, like fire alarm, PA etc, where wiring is not done along with EI works, fish wire shall be invariably drawn.
43. The connection between incoming switch/isolator and busbar shall be made with suitable size of thimble and cable at no extra cost.
44. Copper conductor of insulated cables of size 1.5 Sq. mm and above shall be stranded and terminals provided with crimped lugs.
45. All MS junction box covers should be of phenolic laminated/good quality plastic sheet of thickness not less than 3mm and for which nothing extra shall be paid on the account.
46. All sub-main/power/light wiring shall be terminated in the main board as well as in the switch boards/socket outlets with suitable copper lugs / thimbles for which nothing extra shall be paid on this account.
47. All hardware items such as screw, thimbles, GI wire etc which are essentially required for completing an item as per specifications will be deemed to be included in the item even when the same have not been specifically mentioned.
48. All hardware items such as nuts/bolts/screws/washer set to be used in work shall be zinc/cadmium plate iron.
49. Any conduit which is not wired by the contractor shall be provided with GI fish wire for wiring by some other agency subsequently. Nothing extra shall be paid for the same.
50. While laying conduit, suitable size junction boxes shall be provided for pulling the wire as per the decision of the Engineer-in-Charge.
51. Materials to be used in work are to be ISI marked. The make of the materials have been indicated in the list of acceptable makes. No other makes will be acceptable. The materials to be used in the work shall be got approved by the Engineer-in-Charge / his representative before use at site. The Engineer-in-charge shall reserve the right to instruct the contractor to remove the materials which, in his opinion, is not acceptable.
52. Where switches / sockets / regulator / telephone / TV / internet outlets are to be provided the same shall be of only one make.
53. While laying conduits for fire alarm system, sufficient junction outlets are to be provided as per the direction of the Engineer-in-charge for detectors as reqd.
54. Wherever light fittings are proposed to be provided on the false ceiling, the respective light / fan point wiring will have to be brought up to the terminal of the light fittings / fans by the contractor. Flexible metal conduits shall be used for drawing wires from ceiling to fittings on false ceiling and nothing extra shall be paid to the contractor for the same.
55. Rate Rationalization shall be applicable in case the same item appears more than once in the schedule of work under the same sub-head or among the different sub-head of works. Accordingly the lowest rate quoted for that item among all the sub-heads shall be considered for all similar items for evaluation of tender and making payment.
56. All statutory deductions like GST, labour welfare cess etc. shall be made from the bills.

Specification of Modular Switches and socket (Ref: CPWD Specification Internal 2023)

The modular switch shall be as per following/ have features mentioned below: -

- Suitable for 240V, AC, with normal gap constructions, Flush type, Screw type terminal, IP20
- Current carrying plastic part of Nylon (PA6) with glass fibres up to 16A
- Non-Flammable insulating parts & very high insulating resistance after Humidity test.
- Marked with IS 3854:1997 • Snap fit with Modular Plates very easy to install
- Arrow marking for correct orientation with plate. • Double rocker mechanism to prevent visible spark.
- Bi-metal Silver contact tips for less spark & longer life.
- Fire retardant and UV stabilized.

The modular socket shall be as per following/ have features mentioned below:-

- 240V, AC, Flush type, Screw type terminal, Shuttered. • Polycarbonate material thickness ~1.5 mm to 2.5 mm
- Non-Flammable insulating parts & very high insulating resistance after Humidity test.
- 6A, 6/16A Socket marked with ISI, as per IS 1293:2019
- Snap fit with Modular Plates easy to install
- Brass current carrying parts. • Fire retardant and UV stabilized.

PREFERRED MAKES FOR CIVIL WORK

- (1) The Contractor shall obtain approval from the Engineer-In-Charge before placing order for any specific material or engaging any of the specialized agencies.
- (2) Wherever applicable. The Engineer-In-Charge may approve any material equivalent to that specified in the tender subject to proof being offered by the Contractor for equivalence to his satisfaction.
- (3) Unless otherwise specified, in the tender document all the materials which are ISI Marked shall be used in the work and if the ISI marked materials are not available, materials conforming to IS shall be used, and for the materials which are neither ISI marked nor conform to IS, the manufacturer's Specification shall be followed.

SL. NO.	MATERIALS	APPROVED MAKE
1.	OPC (43 Grade)/PPC	ACC / ULTRATECH / AMBUJA / JK CEMENT / BIRLA/DALMIA/NUVOCO
2.	White Cement	BIRLA WHITE / J. K WHITE
3.	Reinforcement Steel (TMT Bars)	SAIL / TISCO / RINL / JINDAL PANTHER** / JSW**/ TISCO** / VIZAG
4.	Parallel Threaded Couplers	DEXTRA / G-TECH / SANFIELD
5.	Re-barring Chemical	HILTI / 3M INDIA
6.	Structural Steel	TATA/ JSW STEEL LTD/ SAIL/ JINDAL STEEL & POWER LTD./ RINL / APOLLO
7.	Plasticizer, Super Plasticizer, Admixtures, Other construction chemicals	M.C. BAUCHEMIE / FOSROC / SIKKA / BASF/ PIDILITE / CRYSO / ECMAS / STP LIMITED/ FERROUS CRETE
8.	AAC Block	ULTRATECH / AEROCON / BILTECH / JK LAXMI / MAGICRETE / XTRALITE / SIPOREX/NUCON/RENACON
9.	AAC Block Adhesive	ULTRATECH / FERROUS CRETE / BAL ENDURA / AEROCON / J K LAXMI / SIKKA BLOCK JOINTING MORTAR/ DUNLOP/FEVICOL/CICO
10.	Polymer modified cementitious grout	BAL ENDURA / WEBER / MYK LATICRETE / FERROUS-CRETE
11.	List of RMC producers	ULTRATECH / ACC READYMIX/ RIGHT CHOICE / PRISM/ INFRA.MARKET/ LAFARGE (NUVOCO) / L&T
** Note :- Subject to approval for competent authority and prior approval given to the contractor from Engineer – in – Charge.		
12.	Plasticiser & Super Plasticiser	CONTRAMENT, POWER FLOW / MYK SCHOMBURG / PLASTIMENT, SIKAMENT / CONPLAST / CHRYSO - HP / DELTA / OPTIMA

SL. NO.	MATERIALS	APPROVED MAKE
		/ SIKA / CICO
13.	Curing Compound	FOSROC / SIKA / PIDILITE / STP / CICO / BASF/ FERROUS CRETE
14.	Expansion Joint- modular	HERCULES / Z-Tech / SANFIELD/KANTA FLEX (INDIA) PVT. LTD./ FERROUS CRETE
15.	Expansion Joint Bitumen Board	DURA BOARD HD 100 / STP / DURAFILL
16.	Shuttering Ply	MERINO/GREENLAM/CENTURY / ARCHIDPLY /KITLAM
17.	Grout	ARDEX / FERROUS CRETE / SIKA / FOSROC GP2 / MYK SCHOMBURG / FUGABELLA, PORCELANA / DR.FIXIT / WEBER
WATERPOOFING :		
18.	Waterproofing Self Adhesive (HDPE) Membrane	GRACE / FOSROC / MYK SCHOMBURG / STP LIMITED / PIDILITE/ FERROUS CRETE/ DR. FIXIT/ACCO PROOF
19.	Single Component Liquid PU Elastomeric Membrane (spray applied) for Deck Waterproofing	BASF / SIKA / FOSROC/ MYK SCHOMBURG/ GRACE / STP LIMITED / PIDILITE / FERROUS CRETE /DR. FIXIT/ ACCO PROOF
20.	Two component liquid Elastomeric Polyurea Polyurethane hybrid membrane	BASF / SIKA / FOSROC/ MYK SCHOMBURG / STP LIMITED / PIDILITE / FERROUS CRETE/ DR. FIXIT/ ACCO PROOF
21.	Waterproofing Compound (Crystalline) and Swellable Bar	XYPEX / KRYTON / PENETRON / BASF/ SIKA / FOSROC / MYK SCHOMBURG / GRACE/ VENDEX / STP LIMITED/ FERROUS CRETE/ DR. FIXIT/ ACCO PROOF
22.	Polymeric Cementitious Coating	FOSROC/ STP LIMITED / PIDILITE / BASF/ FERROUS CRETE
23.	Elastomeric Acrylic UV resistant liquid applied coating	BASF/ FOSROC/ SIKA / STP LIMITED/ FERROUS CRETE
24.	Chemical water proofing system	SIKA / DR. FIXIT / FOSROC / ADREX ENDURA
25.	Water stops	HYDROTITE / HYDROSWELL / DR. FIXIT/ ARDEX ENDURA
26.	Structural Sealant	DOW CORNING / WACKER / GE / FOSROC / SIKA
27.	Actactic Polypropylene (APP) Modified Water	STP / PIDILITE / ARDEX ENDURA / IWL

SL. NO.	MATERIALS	APPROVED MAKE
	proof Membrane	INDIA LIMITED
DOOR, WINDOWS & WOOD WORK :		
28.	Laminated Particle Board / Particle board / Laminates / Plywood	MERINO / GREENLAM / CENTURY / EUROPLY / ACTION-TESA / DURIAN/ARCHIDPLY /KITMICA/SUNMICA/FORMICA/GREEN PLY
29.	Pre-laminated Particle board Exterior Grade / HDF Pre-laminated board	MERINO / KITLAM / TESA ACTION CO. / ECOBOARD / ARCHID PLY / CENTURY / GREEN LAM / GREEN PLY
30.	Gypsum Board	GYPROC SAINT GOBIAN / LAFARGE / KNAUF
31.	Veneered Particle Board	MERINO / DURO / GREENLAM
32.	SS Mesh	GKD / WMW
33.	FRP door & frame	NYFLEX/CENTURY/ECO DOOR / MEENA FIBRE GLASS / POLYLINE / RAJSHRI
34.	Flush door shutters	GREENPLY / DURO / MERINO / CENTURY / GREENLAM / MAYUR / KITPLY
35.	Glass Door Hardware	DORMA / KICH / HAFELE / OZONE / GEZE / DORSET / HETTICH
36.	Hydraulic door closers / Floor springs	GODREJ / HARDWYN / DORMA / EVERITE / DORSET / GEZE
37.	Locks & Latches	DORSET / GODREJ / HETTICH / HAFELE/ HARRISON / YALE / LINK / GEZE
38.	Non Metallic Fire Door	NAVAIR / PROMAT / GODREJ / KENWOOD
39.	Glass wool Insulation	UP TWIGA / POLY GLASS / LLOYDS/OWENSCORNING
40.	Rock Wool Insulation	LLOYDS / ROXUL ROCKWOOL
41.	Polycarbonate Sheet	GE LEXAN / DANPALON/ GALLINA/MG POLYPLAST / ALCOX / COXWELL/ POLYGAL/ FLUX
42.	Polycarbonate Convex Mirrors, Rubberised Road Hump	UNIQUE SAFETY SOLUTIONS
43.	Decking Steel sheet	TATA STEEL / LLOYDS / JSW
44.	Natural wood veneer	SONEAR / GREEN PLY / TRUWOOD
45.	Anti-static high-pressure laminate	FORMICA / BAKELITE HYLAM / DECOLAM / MERINO / KITMICA / DURIAN
46.	Fire Sealant	HILTI / 3M INDIA / FISCHER
47.	Extruded Polystyrene Board	STP/SUPREME/ OWNESCORNING /

SL. NO.	MATERIALS	APPROVED MAKE
		SHALIMAR
48.	Wooden / Metal / Glazed / Acoustic - Fire Rated Door Shutters	NAVAIR / BHAWANI FIRE / JC FIRE DOOR / SAINT GOBAIN / GALAXY FIRE / SHAKTHI HARMANN / KENWOOD / GODREJ / TATA PRAVESH
49.	UPVC Doors & Windows	FENESTA / ALUPLAST / ENCRAFT / DUROPLAST/ PLAST ONE/GEALAN/ SIMTA ASTRIX /KOMARLING/ YASHPOLY
50.	PVC Doors and Frames	ACCUCEL / ENCRAFT / POLYLINE / RAJSHRI
51.	Fire rated glass (2 hours fire rating)	SAINT GOBAIN/ PYROGUARD / SCHOTT / ASAHI/ PROMAT / PILKINTON
52.	Water Proof Ply wood Commercial Ply, Fire Retardant Ply and Block board	CENTURY PLY / GREENPLY / KITPLY / DUROPLY / ARCHIDPLY
53.	Fire Smoke Seal	HILTI / FISCHER / 3M INDIA / ATROFLAME / RAVEN
54.	Fire Rated Hardware	DORMA / INGERSOLRAND / DORSET / BACKERS FS / GEZE
55.	Non Metallic Floor Surface Hardners	IRONITE / HARDONITE / FOSROC / SIKA / PIDILITE
FINISHING :		
56.	Melamine Polish	ASIAN PAINTS/PIDILITE INDUSTRIES / DULUX / BERGER
57.	Polyester Powder Coating Shades	NEROLAC/BERGER/ AKZONOBEL (DULUX)
58.	Wall Putty	BIRLA WHITE / JK WHITE / BERGER / FERROUS CRETE / JK MAXX / ARDEX ENDURA
59.	Oil Bound Washable Distemper	ASIAN PAINTS / BERGER / NEROLAC / ICI / DULUX / JK MAXX / MG POLYPLAST
60.	Acrylic Distemper	BERGER / ASIAN / DULUX / NEROLAC/ JK MAXX
61.	Cement Primer	BERGER / ASIAN / NEROLAC / DULUX / JK MAXX
62.	Steel / Wood Primer	AKZONOBEL (DULUX)/ NEROLAC / BERGER / ASIAN PAINT / JENSON & NICHOLSON/ JK MAXX
63.	Pink Primer	ASIAN / BERGER / NEROLAC / DULUX / JK MAXX / NIPPON

SL. NO.	MATERIALS	APPROVED MAKE
64.	Red Oxide Zinc Chromate Primer	ASIAN / BERGER / NEROLAC / DULUX / JK MAXX / NIPPON
65.	Adhesives	ANCHOR / DUNLOP / PIDILITE-FEVICOL/ JK MAXX
66.	Premium Acrylic Emulsion Paints	DULUX / NEROLAC / ASIAN PAINTS / BERGER/ JK MAXX
67.	Acrylic Smooth Exterior paint	ASIAN / BERGER / DULUX
68.	Textured Exterior Finish	ASIAN / BERGER / DULUX / NEROLAC / UTTPL / JK MAXX
69.	Synthetic Enamel Paint	ASIAN / BERGER / NEROLAC / DULUX / JK MAXX / NIPPON
70.	Water Proof Cement Paint	ASIAN / BERGER / DULUX / SURFA / CEM COLOUR
71.	Epoxy Paint	DULUX / NEROLAC / ASIAN PAINTS / BERGER / SHALIMAR / STPL LTD. / ARDEX ENDURA / SUN EPOXY PAINT
72.	PU Enamel Metallic Paints on MS Structure & Epoxy Paints (Premium Quality)	SKK / ASIAN / BERGER / MRF
73.	Epoxy Coating	SIKA / FOSROC / LATICRETE / ARDEX ENDURA / MAPECOAT DW25 / FERROUS CRETE
74.	Fire Paint	ASIAN PAINT / BERGER PAINTS / SHALIMAR / JOTUN / DULUX
75.	Gypsum Plaster	FERROUSCRETE / ULTRATECH / INDIA GYPSUM / GYPROC/WESTERN
76.	Cement based Ready Mix Plaster	FERROUSCRETE / ULTRATECH / SAINT GOBAIN
77.	Pre-Cast GRC Jali	UNISTONE / KERAKROME GRC / TERRAFIRMA / MULTIWYN / ECOVISION
78.	Polysulphide sealant	FOSROC / SIKA / TUFFSEAL / PIDILITE / WACKER / DOW CORNING / GE / STP / DR. FIXIT
79.	Silicone / Weather Sealant	WACKER / DOW CORNING / GE / SIKA
80.	Wall Paper	EGO / VESCOM / ASIAN PAINTS / MURASPEC / MARSHALLS
81.	Vinly Graphic	3M / AVERY DENNISON / LUMAR

SL. NO.	MATERIALS	APPROVED MAKE
82.	Melamine Polish	ASIAN / MELAMINE GOLD WUDFIN / POLYCURE
83.	Fire Retardant Paint	JOTUN / HILTI / AKZONOBEL / STPL LTD.
84.	Anticorrosive Bitumastic Paint	BERGER / SHALIMAR / ASIAN
85.	Solar Studs / Median Markers	3M / AVERY DENNISON / NIKKALITE
STEEL & ALUMINIUM WORKS :		
86.	Stainless Steel	SALEM / JINDAL / SAIL/CONNECT/RAMPART
87.	Welding Electrodes	ADVANI-OERLIKON / MODI
88.	Dash / Anchoring Fasteners	HILTI / FISHER / BOSCH / AXEL / WURTH
89.	Anodised Aluminium Hardware (Heavy Duty)	HARDIMA / ALUALPHA / PULSE OFLGF / SYSMAC / HINDALCO / EVERITE
90.	Aluminium Structural Members – Windows, Door, Glazing and Partitions	JINDAL / HINDALCO / NALCO /INDALCO / DEFINE / SCHUECO / BHORUKA / KAWNEER / HARDIMA / EVERITE
91.	Stainless Steel Railing, Accessories etc. (Grade SS 316)	OZONE / GEZE / KICH / DORMA / HETTICH
92.	G. I Steel door frame	SYNERGY THRISLINGTON / BHAWANI FIRE / NAVAIR
CEILINGS :		
93.	False ceiling Grid system	GYPROC / GRIDLINE / WESTERN/ KNAUF/ GRIDSYSYSTEM/ ROYAL KRAFT/ AEROCEIL/HILUX
94.	False Ceiling – Gypsum Board and Sections	SAINT GOBAIN GYPROC / INDIA GYPSUM /AMF /AEROCEIL/KNAUF/ WESTERN/HILUX
95.	Metallic / Wooden Modular False Ceiling	DURLUM / HUNTER DOUGLAS / SAINT GOBAIN/ AEROCEIL/ ROYAL KRAFT/KNAUF/ WESTERN / GRIDSQUARE
96.	Acoustical Tile False ceiling	SAINT GOBAIN / AEROCEIL / KNAUF /HILUX/ TWINGERINSUL / LLOYD INSULATION / ANUTONE
97.	Calcium silicate ceiling tiles / Board/ GRG Ceiling	HILUX / EVEREST / NCL/AEROCEIL
98.	Aluminium Composite Panel	ALUCOBOND / ALPOLIC / ALUDECOR / REYNOBOND / EUROBOND / ALSTRONG
99.	Acrylic Solid Surfaces	HANEX / LG-HIMAC / DUPONT
100.	Sandwich PUF Panelled	LLOYD INSULATION / JINDAL MECTEC /

SL. NO.	MATERIALS		APPROVED MAKE
	Roofing Sheets		DANPALON / GE PLASTIC / LEXAN
FLOORING/ WALL TILES :			
101.	Glass Mosaic Tiles		BISAZZA / MRIDUL / OPIO / PALLADIO / ITALIA GLASS/ ASIAN (AGL)/ CORAL/PAVIT
102.	Floor & Wall Tiles :		
	(a)	Ceramic tiles	KAJARIA/ VARMORA/ORIENTBELL / RAK / ASIAN (AGL)/SOMANY/JHONSON
	(b)	Vitrified tiles	KAJARIA/ VARMORA/ORIENTBELL / RAK / ASIAN (AGL)/SOMANY/JHONSON
103.	PVC Flooring		ARMSTRONG / TARKETT / LG HAUSYS / GER FLOR /
104.	Grass Paver		UNISTONE / SIPL / ULTRA
105.	Laminated flooring		ACTION / TESA / PERGO
106.	Synthetic Sports Flooring		ARMSTRONG / LG / WONDORFLOOR
107.	Linoleum Sports Flooring		ARMSTRONG / FORBO / GERFLOR
108.	False Floor		HEWETSON / ACCESS FLOOR SYSTEM / UNIFLOOR / UNITILE / KEBAO
109.	Engineered Wood Floor		ARMSTRONG / MIKASA REAL WOOD FLOORS / ACTION TESA / WERNER / PERGO
110.	Floor Spring (For non DSR Items)		DORMA / INGERSOLRAND / OZONE / GEZE
111.	Cement Concrete Parking Tiles		NITCO / NTC / SIPL / ULTRA
112.	Synthetic Carpet Tiles		TOLI / WELSPUN / HARRINGTON
113.	Vitrified Paving Tiles		PAVIT / JOHNSON ENDURA / NITCO / SOMANY
114.	Thermal Insulation Treatment		PIDILITE / ELASTOSPRAY / ROCK INDIA PVT LTD. / WEATHER KOOL & SEAL
115.	Engineered stone - Marble / Quartz		ASIAN / JOHNSON / VARMORA/ KALINGA / QUTONE
116.	Chequered Tiles & Kerb Stone (of Non-Recycled C&D Waste)		OVILITE / UNISTONE / HINDUSTAN / KK / ULTRA / DALAL TILES / NITCO
117.	Interlocking Concrete Paver Blocks		DAZZLE / ULTRA / SIPL / NITCO / BASANT BETONS
118.	Tile / Stone Adhesive / Tile Grout		PIDILITE / FERROUSCRETE / BALLENDURA/ VARMORA / MYK LATICRETE

SL. NO.	MATERIALS	APPROVED MAKE
119.	Floor hardener	PIDITOP 333 BY PIDILITE / FOSROC / SIKA / IRONITE / FERROK / HARDONITE/ FERROUS CRETE
120.	Epoxy Flooring	FOSROC / SIKA / CICO / LATICRETE / BASF/ FERROUS CRETE
121.	Heat Resistant Tiles	THERMATEK//ORIENTBELL /NATIONAL/ VARMORA/ASIAN (AGL)/ THERMAX/ JOHNSON
122.	Floor Trap	JAYNA / CHILLI / NIRALI
GLAZINGS :		
123.	Glazing Structural / Suspended / Skylight / clear / float / frosted	SAINT GOBAIN / PYROGUARD / ASAHI / MODIGUARD / PILKINTON
124.	Frosted Glass / Mirror	ASAHI / MODIGUARD / SAINT GOBAIN / AIS
125.	Glass Spider Fittings	DORMA / HAFELE / OZONE / KICH / LEXAN GE
126.	Float Glass / Toughened Glass / Hermetically sealed performance glass	SAINT GOBAIN / MODIGUARD/ ASAHI / SCHOTT / PILKINTON
127.	Reflective Glass	SAINT GOBAIN / ASAHI / PILKINTON / MODIFLOAT
128.	Tempered Reflective / Clear Glass	SAINT GOBAIN / FUSO / GURIND / ASAHI / MODIGUARD
HARDWARE :		
129.	SS Screws	GKW / HILTI / ATUL / WURTH / KUNDAN / ALLOY / NETTLEFOLD / POOJA
130.	Stainless Steel bolts, washers, nuts	HILTI / ATUL / KUNDAN / POOJA
131.	Stainless Steel Pressure Plate Screws	ATUL / KUNDAN / POOJA
132.	Welding Rods	Advani / Esab
133.	Metal Deck Sheet	TATA / SAIL
134.	Clamp system for dry stone cladding	HILTI / FISCHER / BOSCH / AXEL / WURTH
135.	Hinges & Brassware	EARL BIHARI / KICH / ASSA-ABLOY / HAFELE / GEZE / DORMA / DORSET / ALU ALPHA
136.	Friction Stay Hinges	EARL BIHARI / KINLONG

SL. NO.	MATERIALS	APPROVED MAKE
137.	Mild Steel Butt Hinges / Piano Hinges	JOLLY / SUPREME / SASWAT / DEEPAK
138.	Stainless Steel Butt Hinges	PRAYAG / OZONE / DORMA / HAFELE / GEZE
139.	Stainless Friction Hinges	HETTICH / HAFFLE / SECURISTYLE / EBCO / ROTO
140.	MDF Board	NUWOOD / DURATUFF
141.	Concealed Tower Bolt	DORMA / DORSET / INGERSOLRAND / ALU ALPHA
142.	Toilet Cubicles	MERINO / GREENLAM / DORMA
143.	Hardware for Fire Check Door / panic bar / panic trim / door closer / hinges/ mortise lock / dead lock etc.	DORMA / GEZE / HAFELE / BACKEN
144.	EPDM Gasket	HANU / ANAND / OSAKA / ROOP/ BOHRA / AMEE RUBBER
145.	Silicon Gaskets	SREE GAURAV
146.	Masking Tapes	3M / SUN / WONDER POLYMER / ROOP
147.	Anchor / SS Stone Cladding Clamps / Dash Fastners	HILTI / FISCHER / ANCHOR / NUTECH / WURTH / TRIKEL / HELFEN / BOSCH
PLUMBING & SANITARY :		
148.	Stainless Steel Pipes	JINDAL / RAMPART / J-PRESS / REMI
149.	Stainless Steel Kitchen Sink	JHONSON / DIAMOND / JINDAL / HINDWARE / NAVKAR / FRANKE / FUTURA
150.	HDPE/HDPE DWC pipes	JAIN / KAISTA / RELIANCE/ UTKARSH/BEC
151.	Polypropylene pipes	REHAU / POLOPLAST / HULIOT / ASTRAL / HINDWARE
152.	MS Pipe Tubes	SAIL / TATA - TISCO / JINDAL
153.	GI Pipes	JINDAL / TATA / HISSAR / ZENITH / APPOLLO
154.	GI Fittings	UNIK / ZOLOTO / HB / ICS
155.	DI Pipes	ELECTROSTEEL / JINDAL / TATA DUCTURA / KESHORAM
156.	DI Fittings	ELECTROSTEEL / KALINGA / TATA DUCTURA / JINDAL / KESHORAM
157.	CI Double Flanged Sluice Valve	KIRLOSKAR / SONDHI / KEJRIWAL/RPMF

SL. NO.	MATERIALS	APPROVED MAKE
158.	Float Valve	LEADER / ZOLOTO / KSB/ PRIMA
159.	Water Supply Valves	ZOLOTO / LEADER / ARCO / NANDA/ PRIMA
160.	Air Release Valve	KIRLOSKAR / ZOLOTO / LEADER / KARTAR
161.	Centrifugally Cast (Spun) Iron Pipes & Fittings	JAYSWAL NECO / SKF/RPMF /BIC/ HEPCO
162.	Centrifugally Cast (Spun) Iron (Class LA) Pipes	JAYSWAL NECO / ELECTRO STEEL / TATA/ RPMF
163.	Centrifugally Caste (Spun) Iron	LANCO (SRIPIPES) / JINDAL / KESHORAM / ELECTROSTEEL
164.	Spun Cast Iron Fittings	NECO / KARTAR / ELECTROSTEEL / ZOLOTO / LEADER
165.	Hubless Pipe IS: 15905	JAYSWAL NECO / HEPCO /BIC
166.	PE-AL-PE Composite Pipes	KITEC
167.	Spun Cast Iron Covers & Gratings	NECO / JAGANNATH / KAPILANSH / SKF
168.	CI Manhole covers, Frames & GI Gratings	JAYSWAL NECO / SKF/RPMF / BIC / HEPCO
169.	SFRC Manhole Covers & Gratings	KK / OCR / PARGATI / T-CON / RPMF / ADVENT / KUTTY / NU-TEC
170.	Stoneware Pipes and Gully Traps	PERFECT / PARRY / BURN / ANAND / RK / HIND
171.	RCC Manhole covers & Frames	KK MANHOLE / BIC / GRATING CO. (P) LTD/RPMF
172.	Gun Metal Valves, Globes	ZOLOTO / CASTLE / KARTAR / LEADER / SANT / AUDCO
173.	Sanitary CP Fittings & Accessories	ROCA / KEROVIT/ KOHLER / CERA / PARIWARE / HINDWARE/EURONICS/ MARC
174.	PTMT / PVC Water Supply, Sanitary Fittings, Bib Cocks, Pillar Cock, Angle Valve, etc.	PEARL / PRAYAG / SUPREME
175.	Vitreous Chinaware	HINDWARE / PARRYWARE / ROCA / KOHLER/ VARMORA / KEROVIT / CERA/ EURONICS / JOHNSON
176.	Flushing Cistern	HINDWARE / PARRYWARE / CERA/ EURONICS
177.	PVC / HDPE Water Storage Tanks	VECTUS / SINTEX / SUPREME/ORIPLAST

SL. NO.	MATERIALS	APPROVED MAKE
178.	Water Meter	ZOLOTO / LEADER / CAPSTAN/ EURONICS
179.	Brass Stop & Bib Cock	ZOLOTO / SANT / L&K / LEADER / ASTRAL / EURONICS
180.	Water Supply Fixtures Like Bibcock, Shower Panels	JAQUAR / HINDWARE / PARRYWARE / CERA / KOHLER/ EURONICS/ MARC
181.	UPVC / CPVC Pipe & Fittings	AKG / ASTRAL / SUPREME / FINOLEX / SFMC / HINDWARE / UTKARSH / PRAYAG / ASHIRWAD / FLOWGUARD
182.	SWR PVC Pipes and Fittings	ASTRAL / SUPREME / FINOLEX / PRAYAG / FLOWGUARD
183.	PVC Perforated Pipes	REX POLYEXTRUSION / AKASH ENTERPRISES / ZENPLAS PIPES / SUPREME
184.	Non-Return Valve (Check valve) and other kind of Valves	ZOLOTO / SANT / LEADER / UTKARSH / KIRLOSKAR / FLUIDTECH
185.	Float Valve (Ball Valve)	PRAYAG / LEADER / ZOLOTO/ PRIMA
186.	Brass Ferrules	DHAWAN SANITARY UDYOG / KALSI / ANNAPURNA
187.	Insulation for hot water pipes	KAIFLEX / ARMAFLEX / CAREFLEX / LLOYD
188.	Insulation for external / exposed hot water pipes	KAIFLEX / ARMAFLEX / CAREFLEX
189.	Rockwool / Glasswool insulation	TWIGAFIBER / LLYOD INSULATION / KNAUF / SUPREME
190.	Pipe protection for external water supply pipes	PYPKOTE / ARMAFLEX / MAKPOLYKOTE
191.	Stainless Steel Sink	NEELKANTH / NIRALI / CERA / JAYNA / KINGSTON/ PRIMA
192.	RCC Pipes	LAKSHMI / SOOD & SOOD / JAIN & CO. / PRAGATI CONCRETE / INDIAN HUME PIPE
193.	Raised Access Flooring	UNITILE/HEWETSON/UNIFLOOR/ACCESS FLOOR SYSTEM
194.	Acoustical Wall Panelling	KNAUF/ SAINTGOBAIN/HUNTER DOUGLAS/ AEROCEIL
195.	Acrylic Base Polymer Emulsion (Corrosion Inhibitor)	SIKA/BASF/DOW/PIDILITE/CICO
196.	SBR Polymer Mortar & Bonding Coat	SIKA/BASF/FOSROC/PIDILITE/CICO

SL. NO.	MATERIALS	APPROVED MAKE
197.	Epoxy Resin Anchor Grout	SIKA/BASF/ FOSROC /PIDILITE/HILTI
198.	Plastic Encapsulated Foot Rest	KK INDIA / KGM / ACCURATE BUILDCON
199.	Sensor Based Auto Flush Systems	AOS SYSTEMS / CERA / HINDWARE / GROHE / JAQUAR / KOHLER/ EURONICS/ PRIMA
200.	Modular Kitchen /Wardrobes/Hardware and Accessories	SLEEK / GODREJ / HETTICH / SPACEWOOD
201.	Mechanical coupler for Reinforcement	DEXTRA / SCINTILLA ADVANCED MATERIALS / L&T SUFIN (CSPL) / SANFIELD
202.	WPC Frames and Shutters	POLYLINE / RAJSHRI / QUTE/YASHPOLY
203.	Zinc Titanium Cladding System	HUNTER DOUGLUS / VM ZINC / VINDSIL / SILESIA / LEQSA
204.	Aluminium Sun Louver System	HUNTER DOUGLUS / VINDSIL / WARENA RENKHOFF SE / LUTRON ELECTRONICS
205.	Toilet Cubicles	GREENLAM / CENTURY / MARINO
206.	Blinds/Curtains	VISTA / MAC
207.	Furniture	HARMAN MILLER / GODREJ / ROCKWORTH / DURIAN / FEATHERLITE

All fitting shall have ISI marked on its body wherever applicable.

Note :- Chief Engineer, CPWD, Kolkata reserves the right to add or delete any materials and Brands in the list of approved materials/brands on the recommendations of Engineer-in-charge. Unless otherwise specified in the tender document, all the materials which are ISI marked shall be used in the work and if the ISI marked materials are not available, materials conforming to ISI shall be used, and for materials which are neither BIS marked nor confirm to BIS, the manufacturers specification shall be used with prior approval of Engineer-in-charge.

ACCEPTABLE MAKES OF ELCETRICAL MATERIALS

A	I.E.I., MCBDB & MCB, cable & Wires	
1	MCB DB(Sheet thickness 1.6 mm)	Legrand / C&S /Siemens /Schneider/ABB/ L&K/Hager
2	MCB/MCCB/ Isolator/ Industrial Plug Socket/ RCCB/ RCBO's	Legrand/ Siemens/Schneider/ABB/C&S/L&K/Hager
2	Change Over Switch	Schneider/Siemens/ ABB/C&S
3	FRLS PVC ins. Copper cond. Single core cable for wiring (ISI marked)	Finolex/Havells/RR Kable/KEI/Polycab
4	Armoured/ Unarmoured telephone cable, coaxial cable	Finolex/Havells/RR Kable/KEI/Polycab
5	MS Conduit (ISI marked) with MS Conduit pipe accessories.	AKG/ BEC /RM CON/Precision
6	PVC Conduit (ISI marked) with PVC Conduit pipe accessories.	AKG/ norpack/ BEC/ Polypack
7	Modular Switch, Socket/Telephone socket/ cable TV Socket/ Data outlet socket/ Fan Regulator/ G I Boxes Etc (Wiring Accessories).	Legrand (arteor) /MK (BlenzPlus) / ABB (Ivie)/Havells(Murano)/Schneider (Unika Pure)
8	Selector Switch & Toggle switch	Salzer(L&T)/ Siemens/ Kaycee/ Rishabh/ ABB
9	DLP/PVC Trunking	MK/Schneider Electric / Legrand/Construct
10	GI pipe	Jindal /TATA/ SAIL
11	Paints	ICI/ Asian/Berger/Nerolac
12	Terminal Block & Connectors	Elmex/ Wago/ Hensel/ Connectwell
13	Phenolic laminated sheet/ Bakelite sheet	Hylem/ Formica (P-I grade)/ Mylam/ Greenlam.
14	Cat-6 cable, Wires &Fiber optic cable	Amp, Avaya/Beldon/Legrand/Molex/ Schneider/ D-Link/Polycab
15	Networking Rack	Valrack / Net Rack / Panduit / APC/D-Link
16	Patch Panel	Belden / Systimax / Panduit / Molex / HP/Digisol/D-Link
17	Network Switch	Cisco / HP / Allied Tellies / Digisol/D-Link
B	Fans & Fittings	
1	LED Light Fittings/ LED type Flood Light Fittings	Phillips/Wipro/Trilux/LT/ Crompton/Havells/Orient
2	Ceiling fan/ Exhaust fan/ Wall fan/Fresh air Fan	USHA/Havells/Crompton/Orient/Atomberg/Bajaj
3	Wall Bracket fitting	Havells/ Phillips/Wipro/Trilux/LT/Osram
4	Geysers	Racold/Havells/ Somany/Bajaj/Jaguar/Crompton
C	Sub -Station Equipments	
1	LT Panels/Feeder Pillar (Approval of CPRI shall not be older than 5 years)	Amit Project& Controls /Green Galaxy Electrotech /Associated Switchgears and Project Ltd. / ETC Electric Pvt. Ltd./Neptune/RP Controls/Indian transformers and Electricals Pvt. Ltd/DN Enterprise/Technoman Engineering Solutions/EAP Electro Allied Product Pvt. Ltd.
2	Power/ Aux. contactor 3/4 pole	Schneider Electric / Legrand/ Hager/ L&T/ ABB/ Seimens

3	Potential transformer/ Current Transformer	Automatic Electric/ Gilbert & Maxwell/ Matrix/ Precise/ L&T/ Kappa
4	LED type indicating lamp/ Push Button	Schneider Electric / L&T/ Seimens/ C&S/Vaishno
5	Over load Relays	Schneider Electric / L&T/ Seimens/ C&S/ABB/Havells
6	Conventional/ Electronic Digital Meters (A/V/PF/Hz/KW/KWH)	Conzerv/ L&T/ Secure/ AE/ C&S/HPL
7	Timer	Schneider Electric / Legrand/ Hager/ L&T/ ABB/ Seimens/ C&S
8	Fastners/ GI Clamp	Hilti/ Fisher/ Chilli/ GMGR
9	D.W. Corrugated HDPE pipe (ISI marked)	Rex/ Duraplast/ Triputi/ Duraline/ ASTRAL/Supreme
10	Rubber Mat (ISI marked)	Jyoti/ Deep Jyoti/ Premier
11	Fire Extinguishers (ISI marked)	Minimax/ Safex/ Lifeguard/ Kalpex/Ceasefire/ Padmani
12	XPLE insulated PVC sheathed Alum. / Copper conductor Armored / Unarmored cable of 1.1 KV grade	Finolex/ RR Kabel/ KEI/ Havells/ Polycab
13	Cable Glands double compression with Earthing links	Comet/ Cosmos/ Dowells/ Gripwell
14	Bimetallic Cable Lugs	Comet/ Dowells(Biller India)/Hax Brass(Copper Alloy India) / Jainson/ Action.
15	MS / GI Pipe	Jindal/ Tata/ SAIL
16	PVC Pipe	Ashirvad/ Astral/Finolex/Flowguard/Supreme/Prince
17	Aluminium Composite Panel (ACP)	Alu Décor/ Alstrong/ Alucobond /Eurobond/Reynobond
18	Ornamental MS & CI Pole (Factory Finish)	Bajaj / Subham Poles / RR ISPAT / Trans Rail / Havells/Philips
19	Hot Dipped Galvanized Octagonal Pole (Factory Finish)	Bajaj / Subham Poles / RR ISPAT / Trans Rail / Havells/Philips
20	Cable Junction Box	Hensel/ Sintax/ Spelsberg / Neptune-bals
21	MS Channel, Angle, GI Sheet	Jindal Hissar/ TATA/ Sail
D	Air Conditioners	
1	Window type AC/ Split type AC/ Cassette type AC/ VRF AC	Daikin / Mitsubishi / O-General / Blue Star / Carrier/ Hitachi / Voltas / LG
2	UPVC Drain Pipes	Supreme / Astral Pipes / Precision / Prince / Finolex / Ashirvad
3	Copper Refrigerant Pipe	Mandev / Rajco / Nippon / Totaline / Godrej

SPECIAL CONDITIONS TO COMPLY WITH NATIONAL GREEN TRIBUNAL GUIDELINES

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

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

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

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

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

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

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

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

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

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

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

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

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

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