

# PART-A

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**INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR  
E-TENDERING FORMING PART OF BID DOCUMENT AND TO  
BE POSTED ON WEBSITE**

(Applicable for inviting open bids)

The **Executive Engineer, Allahabad, C.P.W.D., Prayagraj** on behalf of President of India invites online Percentage rate bids from **approved and eligible contractors of Building & Roads Category in CPWD** for the following work(s):

S. No.	NIT No.	Name of work and location	Estimated cost put to Tender	Earnest Money	Period of Completion	Last date & time of submission of bid, EMD, e-tender processing fee and other Document as specified in the bid document	Time & date of opening of tender
1	2	3	4	5	6	7	8
1	<b>08/EE/ALLAHABAD/2023-24</b>	<b>Renovation of Prekshagrith, Shilphaat, Kalavithika and Kala Bhawan of North Central Zone Cultural Centre at Allahabad. (SH: Renovation of Auditorium Hall comprising of Wall Panelling, False Ceiling, Stage Flooring etc. including Electrical Works comprising of Internal EI, Sub-station, DG set, Audio-Video System, Stage Lighting, VRF Air Conditioning Fire Fighting etc.</b>	<b>Civil:-</b> <b>Rs. 2,01,33,680/-</b>  <b>Electrical:-</b> <b>Rs. 2,43,94,435/-</b>  <b>Total:</b> <b>Rs. <u>4,45,28,115/-</u></b>	<b>Rs. 8,90,562/-</b>	<b>06 Months</b>	<b>Upto 03:00 PM on 30-05-2023</b>	<b>At 03:30 PM on 30-05-2023</b>

कार्यपालक अभियन्ता इलाहाबाद  
के०लो०नि०वि०, प्रयागराज

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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. He should not have been debarred by the department on the last date for submission of bid.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website [www.etender.cpwd.gov.in](http://www.etender.cpwd.gov.in)
4. The bid can only be submitted after depositing of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission and uploading the mandatory scanned documents such as Demand Draft or Pay order or Banker's Cheque or Deposit at call Receipt or Fixed Deposit Receipts and Bank Guarantee of any Scheduled Bank towards EMD in favour of Executive Engineer as mentioned in NIT, receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/AE), CPWD and other documents as specified.
5. The contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
6. The intending bidder must have valid class-III digital signature to submit the bid.
7. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of **JPG** format and **PDF** format.
9. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in pink color and the moment rate is entered, it turns sky blue.

In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (zero).

However, If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

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

- I. Insurance Surety Bond, Demand Draft/ Account Payee Banker's Cheque / FDR/ Bank Guarantee of any commercial Bank against EMD.
- I. Receipt of Deposition of Original EMD.
- II. Enlistment Order of the Contractor in composite category /Building & Roads Category.
- III. 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 in which the work is to be taken up or as required by GST authorities, then in such a case the bidder shall scan and upload following under taking along with other bid documents. **"If work is awarded to me, I/We shall obtain GST registration certificate of the State, in which work is to be taken up, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/We shall be responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by CPWD or GST department in this regard"**.
- IV. Photo copy of PAN Card.
- V. Valid Email ID & Mobile Number on your letter Pad.

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## RECEIPT OF DEPOSITION OF ORIGINAL EMD

(Receipt No. .... / date .....

Name of Work : **Renovation of Prekshagrih, Shilphaat, Kalavithika and Kala Bhawan of North Central Zone Cultural Centre at Allahabad. (SH: Renovation of Auditorium Hall comprising of Wall Panelling, False Ceiling, Stage Flooring etc. including Electrical Works comprising of Internal EI, Sub-station, DG set, Audio-Video System, Stage Lighting, VRF Air Conditioning Fire Fighting etc.**

NIT No. : **08/EE/ALLAHABAD/2023-24**

1. Estimated Cost : **Rs. 4,45,28,115/-**
2. Amount of Earnest Money Deposit : **Rs. 8,90,562/-**

**(In favour of Executive Engineer, Allahabad Central Division, CPWD, Allahabad)**

3. Last date of submission of Bid : **30-05-2023**

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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/AE(P)/AE/AAO) alongwith Officer stamp

- \* To be filled by EE inviting tender.  
# To be filled by EMD receiving EE.

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### **CPWD-6 FOR e-Tendering**

Percentage rate bids are invited on behalf of President of the India from approved and eligible contractors of Building & Roads category of CPWD for the work of **Renovation of Prekshagrih, Shilphaat, Kalavithika and Kala Bhawan of North Central Zone Cultural Centre at Allahabad. (SH: Renovation of Auditorium Hall comprising of Wall Panelling, False Ceiling, Stage Flooring etc. including Electrical Works comprising of Internal EI, Sub-station, DG set, Audio-Video System, Stage Lighting, VRF Air Conditioning Fire Fighting etc.** The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

- 1.1 The work is estimated to cost: **Rs. 4,45,28,115/-** This estimate, however, is given merely as a rough guide.
2. Agreement shall be drawn with the successful bidders on prescribed Form No. **CPWD 7** which is available as a Govt. of India Publication and also available on website [www.etender.cpwd.gov.in](http://www.etender.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 **06 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. The site for the work is available.

#### **AND**

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

5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website [www.etender.cpwd.gov.in](http://www.etender.cpwd.gov.in)
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. Pre-bid conference shall be held in the chamber of **Superintending Engineer Allahabad, 1<sup>st</sup> Floor, Kendriya Sadan, Civil Lines, Prayagraj, 211001** at **11:00AM on 23-05-2023** to clear the doubt of intending bidders, if any. As a

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result of pre-bid conference, certain modifications etc. may be required. All modifications /addendums /corrigendum issued regarding this bidding process, shall be uploaded on website only and shall not be published in any Newspaper.

10. Earnest Money in the form of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque** (drawn in favour of **Executive Engineer, Allahabad Central Division, CPWD, Allahabad** shall be scanned and uploaded to the e-Tendering website within the period of bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (**including NIT issuing EE/AE**) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by the tender inviting EE in the NIT.

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

Copy of Enlistment Order and certificate of work experience and other documents as specified in **the bid document** shall be scanned and uploaded to the e-Tendering website within the period of bid submission. Further, certified copy of all the scanned and uploaded documents as specified in bid document shall have to be submitted by the lowest bidder only within a week physically in the office of tender opening authority.

**Online bid documents** submitted by intending bidders shall be opened only of those bidders, whose documents scanned and uploaded are found in order. The bid submitted shall be opened at 03:30 PM on **30-05-2023**

*The bid submitted shall become invalid if :*

- The bidder is found ineligible.
- The bidder does not upload all the documents (including GST registration) as stipulated in the bid document.
- 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 bidder in the office of bid opening authority.
- If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

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11. The contractor whose bid is accepted will be required to furnish **performance guarantee of 5% (Five Percent)** of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10,000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank /Pay order of any Scheduled Bank 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 **Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the subcontractors, if any engaged by the contractor for the said work and Programme Chart (Time and Progress) within the period specified in Schedule F.**

12. Description of the work is as follows- **Renovation of Prekshagrih, Shilphaat, Kalavithika and Kala Bhawan of North Central Zone Cultural Centre at Allahabad. (SH: Renovation of Auditorium Hall comprising of Wall Panelling, False Ceiling, Stage Flooring etc. including Electrical Works comprising of Internal EI, Sub-station, DG set, Audio-Video System, Stage Lighting, VRF Air Conditioning Fire Fighting etc.** 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 cost of all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work at his own 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 Govt. of India, Ministry of finance (Deptt. of Revenue) vide notification No. 3/2022 -Central Tax (Rate) dated 13 July-2022 has increased the existing concessional of rate of GST @12% for Central Government, State Government, Union Territory and local authority to 18% with effect from 18<sup>th</sup>**

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**July 2022. The DSR 2021 (Civil) and DSR-2022 (Electrical) were formulated with the concessional GST rate of @ 12% (Multiplying factor 0.1405). Thus rate is required to be increased to @18% (Multiplying factor 0.2127). Accordingly, the ECPT for this work has been arrived by enhancing the rates of items of DSR-2021 (Civil items) and DSR-2022 (Electrical items) by additional 6% (Multiplying factor of 1.0633) and Market Rate items considering GST@18%. Therefore, the intending bidder are advised to take note of this fact and quote appropriately while submitting their bid for the work.**

14. 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.
15. 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.
16. 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.
17. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
18. 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.
19. **The bids for the work shall remain open for acceptance for a period of 30 (thirty) days from the date of opening of bids in case of single bid system and 75 (seventy five) days from the date of opening of technical bids in case bids are invited in 2 or 3 bid system.** Further

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- I. If any tenderer withdraws his tender or makes any modification in the terms & 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.
  - II. If any tenderer withdraws his tender or makes any modification in the terms & 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.
  - III. In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work.
20. This notice inviting Bid shall form a part of the contract document. The successful bidders/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:-
- i. 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.
  - ii. Standard **C.P.W.D. Form 7** or other Standard C.P.W.D. Form as applicable.

## 21. For Composite Bids.

21.1.1 The Executive Engineer in charge of the major component will call bids for the composite work. The cost of bid document 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 (**GCC Construction work 2020**) as amended/modified **upto last date of submission of tenders.**

**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. (SE/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.

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- 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 has also to sign two or more copies of agreement depending upon number of EE's/DDH in charge of minor components. One such signed set of agreement shall be handed over to EE/DDH in charge of minor component(s). EE of major component will operate **Part A** and **Part B** of the agreement. EE/DDH in charge of minor component(s) shall operate **Part C** along with **Part A** of the agreement.
- 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/DDH 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.
- 21.1.12A. The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the

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composite work shall be recorded by Engineer-in-charge of major component after record of completion certificate of all other components.

21.1.12B. Final bill of whole work shall be finalized and paid by the EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.

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

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**GOVERNMENT OF INDIA**  
**CENTRAL PUBLIC WORKS DEPARTMENT**

CPWD-7

# PERCENTAGE RATE TENDER & CONTRACT FOR WORKS

- (A) Tender for **Renovation of Prekshagrih, Shilphaat, Kalavithika and Kala Bhawan of North Central Zone Cultural Centre at Allahabad. (SH: Renovation of Auditorium Hall comprising of Wall Panelling, False Ceiling, Stage Flooring etc. including Electrical Works comprising of Internal EI, Sub-station, DG set, Audio-Video System, Stage Lighting, VRF Air Conditioning Fire Fighting etc.**
- (i) To be uploaded by **03:00 PM** hours on **30-05-2023** at [www.etender.cpwd.gov.in](http://www.etender.cpwd.gov.in)
- (ii) To be opened in presence of tenderers who may be present at **03:30 PM** hours on **30-05-2023** in the office of **Executive Engineer, Allahabad , CPWD, Prayagraj.**

## TENDER

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

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

We agree to keep the tender open for ~~thirty/ forty five/ sixty/ ninety~~(30/45/60/90) days from the due date of its opening and not to make any modification in its terms and conditions.

I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document or Division office of any Executive Engineer of CPWD. **(Strike out as the case may be).**

A copy of earnest money deposit receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank, is scanned and uploaded **(strike out as the case may be)**. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions

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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:

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# 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 ` .....(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 .....

Dated:

Designation .....

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**PROFORMA OF SCHEDULES**

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

**SCHEDULE 'A'****Schedule of quantities (Page No. 90 to 98)****SCHEDULE 'D'**Extra schedule for specific requirements/document **As attached in tender form** for the work, if any.**SCHEDULE 'E'**Reference to General Conditions of contract – **GCC 2020 for Construction Works** as amended/modified **upto last date of submission of tenders.**

<b>Name of Work: Renovation of Prekshagrih, Shilphaat, Kalavithika and Kala Bhawan of North Central Zone Cultural Centre at Allahabad. (SH: Renovation of Auditorium Hall comprising of Wall Panelling, False Ceiling, Stage Flooring etc. including Electrical Works comprising of Internal EI, Sub-station, DG set, Audio-Video System, Stage Lighting, VRF Air Conditioning Fire Fighting etc.</b>		
<b>Estimated cost of the work:</b>	<b>Civil Work</b>	<b>Rs. 2,01,33,680/-</b>
	<b>Electrical Work</b>	<b>Rs. 2,43,94,435/-</b>
	<b>Total</b>	<b>Rs. 4,45,28,115/-</b>
<b>Earnest money</b>		<b>Rs. 8,90,562/-</b> (To be returned after receiving performance guarantee)
<b>Performance Guarantee</b>		5% of the tendered value of the work
<b>Security Deposit</b>		2.5% of the tendered value of the work

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

Officer inviting tender

**Executive Engineer, Allahabad,  
C.P.W.D., Prayagraj.**

Maximum percentage of quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2.&amp; 12.3

See below

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**Definitions:**

- 2(v) **Engineer-in-Charge**  
For Civil items of work **Executive Engineer, Allahabad, C.P.W.D., Prayagraj.**
- For Electrical items of work **Executive Engineer (E), Allahabad, CPWD, Prayagraj.**
- 2(vii) Accepting Authority **Superintending Engineer, Allahabad, CPWD, Prayagraj.**
- 2(x) Percentage on cost of materials and labour to cover all overheads and profits 15%
- 2(xi) **Standard Schedule of Rates:**  
Civil Items of Work: **D.S.R. 2021 i/c cost index & enhance GST 18% and MR.**  
Electrical Items of Work: **As mentioned in electrical part.**
- 2(xii) Department: Central Public Works Department
- 9(ii) Standard CPWD contract Form: **GCC 2020 for Construction Work, CPWD Form 7/8 as modified & corrected upto last date of submission of tenders** (Whether correction vide latest circulars are incorporated or not in this document).

- Clause 1** i) Time allowed for submission of Performance Guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance **10 Days**
- ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above **03 Days**
- Clause 2** Authority for fixing Compensation under Clause 2 **Superintending Engineer, Allahabad, CPWD, Prayagraj Or successor thereof**
- Clause 5** Clause 5
- Number of days from the date of issue of letter of acceptance for reckoning date of start **10 Days**

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**Schedule of Mile Stone**

S. No	Description of mile stone	Time allowed from date of start (in days/months.)	Amount to be withheld in case of non-achievement of milestone.
1(a)	Separate MOUs to be submitted for all the electrical services viz. Internal EI, Sub-station, DG-sets, VRF Air-conditioning, Audio-Video system, stage lighting, Fire Fighting, Fire Alarm System.	07 days	1/2% of accepted tendered amount.
1 (b)	Submission of proof checked design of catwalk etc.	01 months	1/4% of accepted tendered amount.
1 (c)	Achieve 20% of the accepted tendered value.	02 months	1/4% of accepted tendered amount.
2.	Achieve 40% of the accepted tendered value.	03 months	1% of accepted tendered amount.
3.	Achieve 75% of the accepted tendered value.	04 months 15 days	1% of accepted tendered amount.
4.	<b>Complete Work.</b>	<b>06 Months</b>	<b>1% of accepted tendered amount.</b>

Time allowed for execution of work

**06 Months****Authority to decide**

(i) Extension of time

**Engineer-in-Charge of major component of work or successor thereof**

(ii) Rescheduling of mile stone

**Superintending Engineer, Allahabad, CPWD, Prayagraj or his successor thereof**

(iii) Shifting of date of start in case of delay in handing over of site

**Superintending Engineer, Allahabad, CPWD, Prayagraj or his successor thereof****PROFORMA OF SCHEDULES Clause 5 Schedule of handing over of site**

Part	Portion of site	Description	Time Period for handing over reckoned from date of issue of Letter of intent.
Part A	Portion without any hindrance	Entire	At the start of work
Part B	Portions with encumbrances	-	-
Part C	Portions dependent on work of other agencies	-	-

**Clause 6**

Computerized Measurement Book:

(CMB)

Mode of Measurement:

CMB

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<b>Clause 7</b>	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	<b>Rs. 30.00 Lacs</b>
<b>Clause 7A</b>	Whether Clause 7A shall be applicable	<b>Yes</b>
<b>Clause 10A</b>	List of testing equipment to be provided by the contractor at site lab.	<b>Refer page 40-41</b>
<b>Clause 10 B (ii)</b>	Whether clause 10-B (ii) shall be applicable.	<b>No</b>
<b>Clause 10 C</b>	Component of labour expressed as percentage of value of work	<b>25%</b>
<b>Clause 10 CA</b>		<b>Deleted</b>
<b>Clause 10 CC</b>		<b>Not Applicable</b>

Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column :		<b>12 Months</b>
<b>Sl. No.</b>	<b>Relevant component of Material /Labour for price escalation</b>	<b>Percentage of total value of work (Civil)</b>
1	Cement Component	<b>7.5%</b>
2	Labour Component	<b>25%</b>
3	Civil Component of other construction materials	<b>51.5%</b>
4	POL(Diesel) component	-
5	Reinforcement steel bars/TMT bars/Structural steels (including strands & cables) component	<b>16%</b>
6	Bitumen component	-
	<b>Total=</b>	<b>100%</b>

<b>Clause 11</b>	<b>Specification to be followed for execution of work:</b> CPWD Specifications 2019 Vol. 1 and Vol. 2 with correction slips <b>upto last date of submission of tenders</b> (Hereinafter called CPWD specifications also)
<b>Clause 12</b>	Authority to decide deviation upto 1.5 times of tendered Amount. <b>Superintending Engineer, Allahabad, CPWD, Prayagraj Or successor thereof</b>

<b>Type of work</b>	<b>Project &amp; Original Work</b>	<b>Original Work</b>
<b>12.2 &amp; 12.3</b>	Deviation limit beyond which clause 12.2 & 12.3 shall apply for building work.	<b>100%</b>
<b>12.5</b>	i) Deviation limit beyond which clause 12.2 & 12.3 shall apply for foundation work (except items mentioned in earth work subhead in DSR and related items)	<b>100%</b>
	ii) Deviation limit for items mentioned in earth work subhead of DSR and related items	<b>100%</b>

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<b>Clause 16</b>	<b>Competent Authority for Deciding reduced rates:</b>	<b>Superintending Engineer, Allahabad, CPWD, Prayagraj or successor thereof.</b>
<b>Clause 18</b>	List of mandatory machinery, tools & plants to be deployed by the contractor at site.	<b>As per Page No. 74</b>
<b>Clause 19C</b>	Authority to decide penalty for each default.	<b>Engineer-in-charge.</b>
<b>Clause 19D</b>	Authority to decide penalty for each default.	<b>Engineer-in-charge.</b>
<b>Clause 19G</b>	Authority to decide penalty for each default.	<b>Engineer-in-charge.</b>
<b>Clause 19K</b>	Authority to decide penalty for each default.	<b>Engineer-in-charge.</b>
<b>Clause 25</b>		
(i)	Conciliator	ADG (Lucknow) or successor thereof
(ii)	Arbitrator Appointing Authority	Superintending Engineer, Allahabad, CPWD, Prayagraj or successor thereof
(iii)	Place (Seat) of Arbitration	Prayagraj (U.P.)

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

Sl. No. No. of cost of work (Rs. in Crore)	Requirement of Technical staff		Minimum experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)	
	Qualification	Number (of Major + Minor Component)			Figures	Words
More than 50 to 100	Graduate Engineer	1	20 (and having experience of one similar nature of work)	Project manager	Rs. 60,000/- per month	Rs. Sixty Thousand per month
	Graduate Engineer	1	12 (and having experience of one similar nature of work)	Deputy Project Manager	Rs. 40,000/- per month	Rs. Forty Thousand per month
	Graduate Engineer Or Diploma Engineer	1+1	5 Or 10 respectively	Project / Site Manager	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
	Graduate Engineer	1+1	8	Quality Engineer	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
	Diploma Engineer	1	8	Surveyor	Rs. 15,000/- per month	Rs. Fifteen Thousand per month
	Graduate Engineer	1+1	6	Project Planning/ Billing Engineer	Rs. 20,000/- per month	Rs. Twenty Thousand per month
More than 20 to 50	Graduate Engineer	1	20 (and having experience of one similar nature of work)	Project Engineer	Rs. 60,000/- per month	Rs. Sixty Thousand per month
	Graduate Engineer	1	12 (and having experience of one similar nature of work)	Deputy Project Manager	Rs. 40,000/- per month	Rs. Forty Thousand per month
	Graduate Engineer Or Diploma Engineer	1+1	5 Or 10 respectively	Project / Site Manager	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month

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	Graduate Engineer Or Diploma Engineer	1+1	2 Or 5 respectively	Project Planning/ Quality/ Billing Engineer	Rs. 15,000/- per month	Rs. Fifteen Thousand per month
More than 10 to 20	Graduate Engineer	1	10 (and having experience of one similar nature of work)	Project Manager	Rs. 30,000/- per month	Rs. Thirty Thousand per month
	Graduate Engineer Or Diploma Engineer	1	5 Or 10 respectively	Project / Site Manager	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
	Graduate Engineer Or Diploma Engineer	1+1	2 Or 5 respectively	Project Planning/ Quality / billing Engineer	Rs. 15,000/- per month	Rs. Fifteen Thousand per month
More than 5 to 10	Graduate Engineer	1	5 (and having experience of one similar nature of work)	Project Manager	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
	Graduate Engineer Or Diploma Engineer	1+1	2 Or 5 respectively	Project Planning/ Quality / Site/ billing Engineer	Rs. 15,000/- per month per person	Rs. Fifteen Thousand per month per person
More than 1.5 to 5	Graduate Engineer Or Diploma Engineer	1+1	2 Or 5 respectively	Project Manager cum Planning/ Quality / Site/ billing Engineer	Rs. 15,000/- per month	Rs. Fifteen Thousand per month
More than 15 lacs to 1.5 crore	Graduate Engineer Or Diploma Engineer	1 of major component	2 Or 5 respectively	Project Manager cum Planning/ Quality/Site/ billing Engineer	Rs. 15,000/- per month	Rs. Fifteen Thousand per month

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

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

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**Clause 38**

- i) a) Schedule/ statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates 2021 printed by C.P.W.D.
- ii) **Variations permissible on theoretical quantities**
- |    |   |  |
|----|---|--|
| a) | Cement for works with estimated cost put to tender not more than 25 lakhs.            | <b>3% plus/minus</b>                           |
|    | For works with estimated cost put to Tender is more than `25 lakhs                    | <b>2% plus/minus</b>                           |
| b) | Bitumen all works   | <b>2.5% plus only &amp; nil on minus side.</b> |
| c) | Steel reinforcement and structural steel Sections for diameter, section and category. | <b>2% plus/minus.</b>                          |
| d) | All other materials   | <b>Nil</b>                                     |

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## GENERAL REQUIREMENTS FOR THE TENDER

**Name of Work:** **Renovation of Prekshagrih, Shilphaat, Kalavithika and Kala Bhawan of North Central Zone Cultural Centre at Allahabad. (SH: Renovation of Auditorium Hall comprising of Wall Panelling, False Ceiling, Stage Flooring etc. including Electrical Works comprising of Internal EI, Sub-station, DG set, Audio-Video System, Stage Lighting, VRF Air Conditioning Fire Fighting etc.**

- 1 The tenderer is advised to read and examine the tender documents for the work and the set of drawings available with Engineer-in-charge. He should inspect and examine the site and its surroundings by himself before submitting his tender.
- 2 Separate schedule of quantity is included in this tender for civil and electrical items of work. If the tenderer wants to offer any unconditional rebates on their rates, the same should also be offered in the respective components of civil and electrical schedule separately. The contractor shall quote the percentage rates in figures and words accurately so that there is no discrepancy in rates written in figures and words.
- 3 Time allowed for the execution of work is **06 Months.**
- 4 The contractor(s) shall submit a detailed program of execution in accordance with the master programme/milestone within ten days from the date of issue of award letter.
- 5 Quality of the project is of utmost importance. This shall be adhered to in accordance with the provisions of CPWD specifications and guidelines given in the relevant paras.
- 6 The contractor (s) shall make his own arrangements for electricity and water required for the execution of work.
- 7 **Cement, steel reinforcement, all the material required shall be arranged by the contractor himself.**
- 8 ~~**Steel Reinforcement shall be arranged by the contractor himself.**~~
- 9 Contractor has to deploy required Plant and machinery on the project. **Minimum number of plant and machinery to be deployed by him is indicated at Page No. 74.** In case the contractor fails to deploy the plant and machinery whenever required and as per the direction of the Engineer-in-charge, he (Engineer-in-charge) shall be at a liberty to get the same deployed at the risk and cost of the contractor.
- 10 The contractor shall submit the running bills in the shape of the computerized MB in pages of A-4 size as per the standard format of department and shall act as per modified clause 6 of CPWD-7
- 11 The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time.

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# SCOPE OF WORK

The broad scope of work shall include but not limited to the following operations related to the work :-

## Civil Works

1. Replacing of old damaged AC sheet of roof and providing and fixing of Prefabricated sandwiched Rockwool panel insulated roofing.
2. Dismantling of existing wall paneling & false ceiling.
3. Fabrication of catwalk and strengthening of existing truss, if required. Design, drawings and proof checking of the same shall be in the scope of the contractor.
4. Providing and fixing acoustical false ceiling, floor carpet, block wood flooring with melamine polish in stage area.
5. Providing and fixing acoustical metal wall panel up to 1200/1500 mm height and 25mm thick fiber glass wrapped with fabric up to ceiling height in auditorium area.
6. Renovation of Auditorium acoustic doors with panic bar for Entry/Exit doors.
7. Renovation of Green room and Toilets.
8. Renovation of store room along with Auditorium.

## Electrical Works

1. Provision for Internal Electrical Installation.
2. Provision for Sub Station.
3. Provision for DG Set.
4. Provision for Audio System.
5. Provision for Video System.
6. Provision for Stage Lighting and Drapery excluding lighting fixtures.
7. Provision for VRV/VRF Air Conditioning System.
8. Provision for Intelligent Fire alarm System.
9. Provision for Down Comer System.

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### ADDITIONAL CONDITIONS

1. Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items, the work shall generally be carried out in accordance with the "CPWD Specifications - 2019 (Vol. I & II) for civil works with up to date correction slips and CPWD Specification for Horticulture works with up to date correction slips (hereinafter to be collectively referred to as 'CPWD Specifications'). Wherever CPWD Specifications are silent, the latest BIS Codes/Specifications, National Building Code 2016, MoRTH specification or any other specification shall be followed.
2. The order of preference in case of any discrepancy between SOQ, the specification and/or drawings etc. shall be followed as:
  - (i) Nomenclature of items as per Schedule of Quantities
  - (ii) Additional/ Special Conditions and Particular Specifications as provided forming part of tender document.
  - (iii) CPWD Specifications with up to date Correction slips
  - (iv) Architectural/Structural drawings
  - (v) Indian Standard Specifications of BIS
  - (vi) National Building Code - 2016
  - (vii) Manufacturers specifications.
  - (viii) Sound Engineering Practices
  - (ix) Decision of Engineer-in-charge

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

3. The proposed building work is a prestigious project and quality of work is of paramount importance. Contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like stone masonry & stone cladding work, stone flooring, flooring work, wood work, precast RCC coffer, polysulphide/ silicone sealant & other specialized works will specifically require engagement of skilled workers having experience particularly in execution of such items.
4. The tenderer shall acquaint himself with the proposed site of work, its approach roads, working space available etc. before quoting his rates and no claim on this account shall be entertained by the department.
5. 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 required for construction.

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6. The contractor(s) shall study the soil investigation report for the site, available in the office of the Engineer-in-charge and satisfy himself about complete characteristics of soil and other parameters at site. However, no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.
7. The tenderer shall 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 payment shall be made on this account.
8. The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations 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 shall be paid on this account.
9. The contractor(s) shall inform/issue notices to the Municipality, police and other authorities that may be required as per law and obtain all requisite permission/ licenses for temporary obstructions, enclosures etc. Contractor(s) shall pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the property whether public or private and shall supply and maintain lights either for illumination or for cautioning the public at night.
10. The contractor shall fully comply with all legal orders and directions of the Public or local authorities or municipality and adhere by their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same.
11. For construction works which are likely to generate malba / rubbish, the contractor shall reuse it at site as directed by the Engineer-in-charge or hand over to recycling agents or dispose of at his own cost to the notified/specified Municipal dumping ground. No deduction on this account shall be made from the agency as well as no extra payment will be made to agency if it is disposed at pre-defined location within the campus / Municipal dumping ground.
12. The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of smoke, streams and water-ways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor without any reservation entirely to the satisfaction of the Engineer-in-Charge.
13. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of building/adjacent properties.

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14. The works shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work and satisfy himself that the information available thereof is complete and unambiguous. The discrepancy, if any shall be brought to the notice of the Engineer-in-Charge before execution of the work. **In general, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings related to the relevant item, the former shall prevail unless otherwise given in writing by Engineer-in-charge.** The contractor alone shall be responsible for any loss or damage executing by the commencement of work on the basis of any erroneous and or incomplete information.
15. The Architectural drawings given in the tender other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fixings involved unless and otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-in-Charge.
16. Other agencies **carrying out works related with the project such as** sub-station / generating sets, air-conditioning, lifts, etc. **may also simultaneously executed their work** and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
17. The contractor shall conduct work so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.
18. Some restrictions may be imposed by the security agencies /client on the working and on movement of labour, materials etc in the campus/site and may require to issue identity cards to all persons authorized by contractor to do work / visit the work site. The contractor shall be bound to follow all such restrictions / instructions and no claim whatsoever shall on this account will be entertained. The loss of time on this account, if any, shall have to be made up by generating additional resources etc. at no extra cost.
19. The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark(s), spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet, safety harness and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, providing and installation of safety signages, barriers, earth

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- embankments, preparatory works, all testing of materials, working during monsoon, working at all depths, height and locations etc. unless specified in the schedule of quantities.
20. Royalty at the prevailing rates wherever payable shall have to be paid by the contractor on the boulders, metal, shingle, sand and bajri etc. Or any other material collected by him for the work direct to revenue authorities and nothing extra shall be paid by the department for the same.
  21. Contractor shall make all necessary arrangements for protecting works already executed from rain, snowfall, flood or any other natural calamity, vandalism, whatsoever, during the execution of the work and nothing extra shall be payable on this account. Further, no claim financially or otherwise shall be entertained and no payment shall be made for any damage caused by any such aforementioned reasons occurred during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.
  22. The contractor shall deploy resources e.g. manpower, labour, T&P, Plant & Equipment etc. as per actual requirement of work. No damages/compensation shall be payable on account of idle manpower, labour, T&P, Plant and Equipment and loss of profit etc. for whatsoever reason.
  23. The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, material, tools and plants and other inputs involved in the execution of the item.
  24. The contractor (s) shall quote all-inclusive rates against the items in the schedule of quantities and nothing extra shall be payable for any of the conditions and specifications mentioned. In the tender documents unless specifically specified otherwise.
  25. Unless otherwise specified in the schedule of quantities the rates for all items shall be considered as inclusive of pumping/baling out water, if necessary, for which no extra payment shall be made. Those conditions shall be considered to include water from any source such as inflow of flood, surface and sub-soil water etc. and shall apply to the execution in any season.
  26. 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 guidance only).
  27. Unless otherwise specified in the schedule of quantities, the rates tendered by the contractor shall be inclusive of all costs & taxes and shall apply to all leads and lifts and nothing extra shall be payable on this account.
  28. The foundation trenches shall be kept free from water while works below ground level are in progress.
  29. No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried

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- out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.
30. All ancillary and incidental facilities required for execution of work, onsite and offsite, like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, temporary barricading or fencing around the working sites, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc. protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.
  31. For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). Normally contractors shall not be allowed to execute the RCC, electrical and finishing work at night. Work at night shall, however, be allowed if the site conditions/circumstances so demand. No claim whatsoever shall be entertained on this account, not with-standing the fact that the contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the contractor with them.
  32. The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated these provisions shall apply separately to each phase.
  33. All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
  34. The contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan however, if any change is required, the same shall be done with the approval of Engineer-in-Charge. Double handling of materials or excavated earth, if required, at any stage of the work shall have to be done by the contractor at his own cost.
  35. The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department/arranged by the contractor.

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36. The terms machine batched, machine mixed and machine vibrated concrete used elsewhere in agreement shall mean the concrete produced in concrete batching and mixing plant and if necessary transported by transit concrete mixers, placed in position by the concrete pumps, tower crane and vibrated by surface vibrator /needle vibrator / plate vibrator, as the case may be to achieve required strength and durability.
37. The cost of flooring is inclusive of providing sunken flooring in bath-rooms, kitchen, etc. and nothing extra on this account shall be payable.
38. Any legal or financial implications resulting out of carriage of earth from outside or disposal of earth shall be sole responsibility of the contractor. Nothing extra shall be paid on this account.
39. No chase cutting/dismantling of plaster/RCC/CC shall be allowed, so contractor has to execute the electrical work accordingly. The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors are minimized. Wherever absolutely essential, the chase shall be cut using chase cutting machines. Chases will not be allowed to be cut using hammer / chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper coordination of various disciplines viz. sanitary & water supply, electrical, fire-fighting and any other services.
40. The work of water supply, internal sanitary installations and drainage etc. shall be carried out as per the bylaws of the Municipal Corporation or any other local body and the contractor shall produce necessary completion certificates from such authority after completion of work.
41. In case of local Municipal regulations / restrictions by client /non-availability space at site, if huts for labour are not allowed to be erected at the site of work, the contractor shall be required to provide such accommodation at suitable place at his own cost and nothing extra shall be paid on this account.
42. Any cement slurry added over base surface for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable and no extra cement considered in consumption on this account.
43. Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar service encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted. The same shall be payable to the contractor. The contractor shall work out the cost and the same shall be approved by Engineer-in-Charge. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
44. The contractor shall be responsible for the watch and ward / guard of the buildings safety, fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

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45. The contractor shall make his own arrangements for obtaining electric connections including DG sets, if required, and make necessary payments directly to the department concerned. Nothing extra, whatsoever, shall be paid on this account and neither any extra time for delay in the said operations, whatsoever, shall be admissible on this account.
46. The Department shall in no way be responsible for either any delay in getting electric and/or water and/or telephone connections for carrying out the work or not getting connections at all. No claim of delay or any other kind, whatsoever, on this account shall be entertained from the Contractor. Also, contingency arrangement of stand-by water & electric supply shall be made by the Contractor for commencement and smooth progress of the work so that work does not suffer on account of power failure or disconnection or not getting connection at all. No claim of any kind whatsoever shall be entertained on this account from the Contractor. Nothing extra shall be payable on this account.
47. The rate quoted by the contractor / agency shall be inclusive of mobilization to site all necessary machineries and equipment's, furnishing, handling, storing, installation including placing, cutting holes, splicing, driving, re-driving, bailing out water, pulling out and removal of the temporary earth retaining structure / strutting etc. from site and other machineries, equipment's, instrumentations etc. men ,materials etc. , other incidental to works, for execution of work, with all safety measures as required for the execution of construction work for safety of surrounding existing buildings, structures, services, parked / moving vehicles, equipment's and machines etc. as per direction of Engineer-in-charge.
48. WARNING/ CAUTION BOARDS: All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer - in - Charge. Nothing extra shall be payable on this account.
49. SIGN BOARDS: The Contractor shall provide, erect and maintain till completion of work, a display board of size and shape as per directions of Engineer in charge and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Client/Owner, Engineer-in-charges, Structural Consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies within 30 days from issue of award letter. Nothing extra shall be payable on this account. In case of non-compliance/delay in compliance in this, a penalty @ Rs. 500/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor.

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50. The contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc., under various labour laws and other regulations applicable to the works, at his site office.

#### 51. SETTING OUT

51.1. Contractor shall provide permanent bench marks and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings.

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

51.3. The contractor shall establish, maintain and assume responsibility for grades, lines, levels and bench marks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions to the Engineer-in-Charge before commencing work. Commencement of work shall be regarded as the contractor's acceptance of such grades, lines, levels and dimensions and no claim shall be entertained at a later date for any errors found. If at any time, any error in this respect shall appear during the progress of the work, the contractor shall, at his own expense rectify such error if so required to the satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.

51.4. Though the site levels may be indicated in the drawings the contractor shall ascertain himself and confirm the site levels with respect to GTS bench mark from the concerned authorities.

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

51.6. The approval by the Engineer-in-Charge of the setting out by the contractor shall not relieve the contractor of any of his responsibilities obligation to rectify the errors/defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.

51.7. The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignment, the level and correctness of every part of the work and shall

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rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the contractor at his own cost to the instructions and satisfaction of the Engineer-in-Charge.

## 52. PROGRAMME CHART

- 52.1. The Contractor shall prepare an integrated programme chart in MS Project, Primavera software, **or as approved by Engineer-in-charge** for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfilment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in-Charge within ten days of award of the contract. Non-submission of such programme shall attract the recoveries as mentioned in the Schedule-F of the tender document. The integrated program chart so submitted should not have any discrepancy with the physical milestones attached in the contract agreement.
- 52.2. The programme chart should include the following:
- Descriptive note explaining sequence of the various activities.
  - Network (PERT/CPM/BAR CHART) in MS Project/Primavera Software
  - Programme for procurement of materials by the contractor.
  - Programme of procurement of machinery / equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
- 52.3. In addition to above, the contractor shall submit shuttering schedule adequate to complete structure work within laid down physical milestone etc. and to achieve the progress of work as per programme, he must bring sufficient shuttering material required for cement concrete and R.C.C. works etc.
- 52.4. If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above, the contractor shall produce a revised programme showing the modifications to the approved programme to ensure completion of the work. The modified schedule of programme shall be approved by the Engineer-in-Charge. Non-submission of such revised programme shall attract the recoveries as mentioned in the Schedule-F of the tender document.
- 52.5. The submission for approval by the Engineer-in-Charge of such programme or the furnishing of such particulars shall not relieve the contractor of any of the duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.

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### 53. MONTHLY PROGRESS REPORT

The contractor shall submit to the Engineer-in-charge on the 7th day of each month, 2 hard copies and one on soft copy (through CD or any other electronic form) of monthly progress report of the. Such progress report will include the project progress, summary, work progress (planned vs actual), CPM chart, status of financial progress and achievement of milestone, manpower deployment status, inventory of materials and photographs of important activities. For delay in submission of the report, or submission of incomplete report without all the details mentioned hereinbelow recovery from the contractor as mentioned in Schedule F of the contract shall be made.

The progress report shall contain the following, apart from whatever else may be required as specified above:

- (i) Project information, giving the broad features/ brief scope of the contract of the work under the contract, and the broad structural or other details.
- (ii) Construction schedule of the various components of the work through a bar chart for the next two fortnights (or as may be specified), showing the milestones, targeted tasks and up to date progress.
- (iii) Progress chart of the various components of the work that are planned and achieved, for the month as well as cumulative upto the month, with reasons for deviations, if any, in a tabular format.
- (iv) Plant and machinery statement, indicating those deployed in the work, and their working status/ condition.
- (v) Man-power statement, indicating individually the names of all the staff deployed in the work, along with their designations. No. of skilled workers (trade wise) and total no. of unskilled workers deployed on the work and their location of deployment, activity wise & block wise.
- (vi) Financial statement, indicating the broad details of all the running account payments received upto date, such as gross value of work done, advances taken, recoveries effected, amounts withheld, net payments, details of cheque payments received, etc.
- (viii) A statement showing the extra and substituted items submitted by the contractor, and the payments received against them, items pending for sanction/decision by the Department, broad details of the Bank Guarantees, indicating clearly their validity periods, broad details of the insurance policies taken by the contractor, if any, the advances received and adjusted.
- (ix) Progress photographs, in colour, of the various items/components of the work done upto date, to indicate visually the actual progress of the work.

Nothing extra, whatsoever, shall be paid on account of the aforesaid submission of monthly report.

### 54. SAFETY PRECAUTIONS

- 54.1. Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of manpower deployed for construction.

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- 54.2. Unless provided otherwise elsewhere in the contract, contractor at his cost put up the barricading all around the construction site through suitable method for segregating the construction site and also to control the dust pollution in the campus. Entry to the site shall be controlled for proper security of man and materials and to avoid accidents.
- 54.3. Necessary personal protective and safety equipment's such as helmet, safety shoes & harness, gloves etc. shall be provided to the all site Engineers, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site.
- 54.4. The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards, day and night speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused to existing/new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.
- 54.5. In case of any accident of labours/ contractual staff's the entire responsibility will rest on the part of the contractor and any compensation under such circumstances if becomes payable the same shall be entirely borne by the contractor and department shall have no role on this account.
- 54.6. It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
- 54.7. Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.
- 54.8. For facia work, outer finishing and other RCC works etc. double steel scaffolding having two sets of vertical supports with steel staircase for inspection of works by engineer in charge shall be used. The supports shall be sound and strong, tied together with horizontal piece over which scaffolding planks shall be fixed.
- 55. QUALITY ASSURANCE**
- 55.1. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge.
- 55.2. The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.

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- 55.3. ~~The contractor shall depute Quality Manager exclusively for enforcement of quality control. Such Quality Manager should be a qualified engineer with minimum Eight years of similar experience. For other staff to be deployed for quality assurance, the contractor may refer to clause 32 under schedule "F" attached.~~
- 55.4. Wherever work is specified to be done through specialized agencies, their names shall be got approved well in advance from Engineer in charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work, contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer in charge.
- 55.5. All materials obtained from Govt. Stores or otherwise shall be got checked by the Engineer-in-Charge or his any authorized supervisory staff on receipt of the same at site before use.
- 55.6. Materials used on work without prior inspection and testing (where testing is necessary) and without approval of the Engineer-in-Charge are liable to be considered unauthorized, defective and not acceptable. The Engineer-in-Charge shall have full powers to order the removal of any or all of the materials brought to site by contractor which are not in accordance with the contract specifications or do not confirm, in character or quality to the samples approved by the Engineer-in-Charge. In case of default on the part of the contractor in removing rejected materials, the Engineer-in-Charge shall be at liberty to have them removed at the risk and cost of the contractor
- 55.7. The contractor shall provide at his own cost suitable weighing, surveying, levelling and measuring arrangements at site for checking the weight, layout, levels, dimensions as may be necessary for execution of work and directed by Engineer in charge at site for checking. All such equipment shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. The sealed samples are to be handed over to the testing lab by contractor in the presence of Junior Engineer/Assistant Engineer-in-Charge of work. Nothing extra shall be payable on all these account.
- 55.8. **Samples of various materials required for testing shall be provided free of charges by the contractor. Testing charges, if any, unless otherwise provided in the contract shall be borne by the contractor. All other expenditure required to be incurred for taking the samples; conveyance, packing etc. shall also be borne by the contractor himself.**
- 55.9. The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case, he or his authorized representative is not present or does not associate him, the results or such tests and consequences thereon shall be binding on the contractor.
- 55.10. For certain items, if frequency of tests not mentioned in the CPWD Specifications and then relevant IS code shall be followed and tests shall be carried out as per the frequency specified therein.

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- 55.11. If any load testing or special testing is to be done for any sample whose strength is doubtful, the cost of the same shall also be borne by the contractor.
- 55.12. Samples of all materials and fittings to be used in the work in respect of brand manufacturer and quality shall be got approved from the Engineer-in-Charge, well in advance of actual execution and shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per approved list of brand names given in the tender document / additional specifications for approval of Engineer-in-charge. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval.
- 55.13. To avoid delay, contractor should submit samples as stated above well in advance so as to give timely orders for procurement. If any material, even though approved by Engineer-in-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.
- 55.14. The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.
- 55.15. The contractor shall get the water tested with regard to its suitability and conforming to the relevant IS Code. The contractor shall obtain written approval from the Engineer-in-Charge before he proceeds by using the same for execution of work. The water testing charges shall be borne by the contractor. If tube well water is not suitable, the contractor shall arrange Municipal water or from any other source at his own cost and nothing extra shall be paid on this account. The water shall be got tested at frequency specified in latest CPWD Specifications / BIS Code.
- 55.16. The Stone aggregate/stone, sand shall be brought from any quarries subjected to the said materials conform CPWD specifications.
- 55.17. The gradation of fine sand to be used in plaster work shall be strictly as per CPWD Specifications 2019, conforming to IS:1542-1977. The plastered surface shall be fairly smooth without any undulation of any kind for applying paint/white wash.

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- 55.18. Contractor shall prepare and submit shop drawings for approval of Engineer in charge, before taking up execution of different activities like staging and shuttering arrangement, **structural steel items, trusses, frames aluminium doors & windows, uPVC doors & windows**, plumbing for water supply and drainage, sewer lines & manholes with IL, ACP cladding, stone cladding, glass curtain walls etc. or any other activity as directed by Engineer in charge. Contractor shall be required to make modifications as may be directed by the Engineer in charge in the submitted shop drawings and shall resubmit modified shop drawings. Contractor shall not be allowed to execute the related items without approval of such shop drawings and he shall be fully responsible for all contractual implications, for any delay caused, if any, on account of delay in submission of such shop drawings or modified shop drawings. Nothing extra, whatsoever, shall be paid on this account and his quoted amount shall be deemed to be inclusive of all such activities.
- 55.19. Shop drawings shall be submitted for approval four weeks in advance of planned delivery and installation of any material to allow the Engineer In-Charge ample time for scrutiny. No claims for extension of time shall be entertained because of any delay in the work due to his failure to produce shop drawings at the right time, in accordance with the approved program.
- 55.20. The contractor shall invariably prepare the samples of finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Engineer-in-charge. The contractor shall proceed with further finishing items only after getting the samples of these items approved in writing from Engineer-in-charge. Toilets and in case of construction of residential quarters, one sample quarter complete in all shape for each category, shall be prepared by the contractor and got approved from Engineer-in-charge in writing. The contractor shall be allowed to proceed with further quarters only after getting the sample quarters approved in writing from Engineer-in-charge. No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the contractor on this account.
- 55.21. The construction joints shall be provided in predetermined locations only as decided by Engineer in charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the contractor.
- 55.22. Water tanks, taps, sanitary, water supply and drainages pipes, fittings and accessories should conform to the specifications provided in bidding documents. The contractor(s) should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/Corporation authorities, wherever required, at his own cost. The Contractor(s) shall submit for the approval to

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the Engineer-in-Charge the name of the plumbing agency proposed to be engaged by him.

55.23. All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions submitted before covering.

55.24. The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.

55.25. Door/window frames/shutters and other factory-made materials shall be procured from reputed and approved manufacturers or their authorized dealers. Decision of Engineer-in-charge in this regard shall be final and binding.

**55.26. Testing of Materials:**

(i) **Laboratory at site:** The contractor shall establish a testing lab at site and provide testing equipment and materials for the field tests mentioned in the list of mandatory tests given in CPWD Specifications 2019 Vol. 1 & 2. Nothing extra shall be payable to him on this account. The representatives of the department shall be at liberty to inspect the testing facilities at site and conduct testing at random in consultation with Engineer in charge. The contractor shall provide all necessary facilities for the purpose. The laboratory shall be equipped, inter alia, with the following equipment:

a) **Balances:**

- i) 7 kg to 10 kg capacity, semiself-indicating type – Accuracy 10 gm.
- ii) 500 gm capacity, semiself-indicating type Accuracy 1 gm.
- iii) Pan Balance- 5 kg Capacity- Accuracy 10 gm.

b) **Ovens-** Electrically operated, thermostatically controlled up to 1100C- Sensitivity 10C.

c) **Sieves:** as per IS: 460

- i) IS Sieves – 450 mm internal dia of sizes 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm, complete with lid and pan.
- ii) IS Sieves – 200 mm internal dia (brass frame) consisting of 2.36 mm, 1.18 mm, 500 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan.

d) Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly.

e) Equipment for slump test- slump cone, steel plate, tapping rod, steel scale, scoop.

f) Equipment for concrete testing

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| i) Concrete cube moulds 15x15x15cm<br>18Nos.  | :              |
| ii) Pruning Rods 2Kg weight length 40cm and ramming face 25mm   | : 1 No.        |
| iii) Extra Bottom plates for 15cm cube mould  | :6 Nos.        |
| iv) Standard Vibration table for cubes  | : 1 No         |
| v) Dial gauges 25 mm travel- 0.01 mm/division Least count-  | : 1 No.        |
| <b>vi) Electrically operated Compression testing machine of 100 tonne capacity with digital display</b> | <b>: 1 No.</b> |

Not less than 90% tests for material be performed at site lab with above stated equipment's, however at least 10% testing of materials shall be got done from external laboratories. However, for the tests to be carried out by the external laboratories, the contractor shall supply free of charge all the materials required for testing, including transportation. If the tests which were to be conducted in the site laboratory are conducted in other laboratories for any the reasons the cost of such tests shall be borne by the contractor.

- (ii) **Other Laboratories:** The contractor shall arrange carrying out all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including charges for testing for all materials except cement for which separate condition is provided in tender document.

**55.27. Maintenance of Site Registers:**

- (i) All the Site Registers including Tests registers for tests to be 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 in the same manner as being issued to CPWD field staff.
- (ii) The various registers to be issued to the contractor are:
- Materials at site account register.
  - Cement register.
  - Master test registers.
  - Cube test register.
  - Paint register.
  - Inspection register.
  - Drawing register.
- (iii) All the entries in the registers will be made by the designated engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE.

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- (iv) 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 in the same manner as being issued to CPWD field staff.
- (v) All samples of materials including cement concrete cubes shall be taken jointly with contractor by JE 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 AE jointly with contractor. All the necessary assistance shall be provided by the contractor. Cost of sampling & testing are to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site/ outside laboratory.
- (vi) All the tests in field lab at construction site shall be carried out by the Engineering staff deployed by the contractor and shall be 100% witnessed by JE and 50% of tests shall be witnessed by AE –in-Charge. At least 10% of the tests are to be witnessed by the Executive Engineer. Minimum 25% of all samples should be tested in outside approved laboratory/ Govt. Engineering colleges.
- (vii) Submission of copy of all test registers, material at site register along with each alternate running account bill and final bill shall be mandatory. These registers should be duly checked by AE(P) in division office.

#### 55.28. Removal of Rejected / Sub-standard Materials:

The following procedure should be followed in case of removal of rejected/sub-standard materials from the site of work.

- a) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the site order book under the signature of the AE/AEE giving approximate quantity of such materials.
- b) As soon as the material is removed, a certificate to that effect may be recorded by the AE/AEE against the original entry, giving the date of removal a mode of removal i.e. whether by truck, carts or by manual labour. If removal is by truck, the registration number of the truck should be recorded.
- c) When it is not possible for the AE/AEE to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site the required certificate should be recorded by the Junior Engineer and the AE/AEE should countersign the certificate recorded by the Junior Engineer.

#### 56. AS BUILT DRAWINGS:

On completion of work, the Contractor(s) shall submit at his own cost four prints of “as built” drawings to the Engineer-in-Charge within 30 days of completion of work. These drawings shall have the following information.

- (i) **Route of** all piping and their diameters including soil waste pipes and vertical stacks.
- (ii) Ground and invert levels of all drainage pipes together with locations of all manholes and connections, up to outfall.

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- (iii) **Route of** all water supply line with diameters, locations of control valves, access panels etc.

**On failure of the contractor to do so action shall be taken as per the clause 8A of the General Conditions of the Contract.**

57. Contractor shall be mandatorily be required to provide to the engineer-in charge certified copies of original invoices of all kind of materials, T&P etc. being used or procured for this agreement. Failure to provide any of such information to engineer-in-charge to his satisfaction shall render the contractor ineligible for payment for such items and no claim what so ever on this account shall be admissible and decision of engineer-in-charge in this regard shall be final and binding.

**58. Condition regarding secured advance:-**

Secured advance shall be admissible only on those bonafide materials which are likely to be used in the work in a period not exceeding six months from the date of secured advance payment. If agency fails to use the material (in respect of which secured advance have been paid) in the work in this specified period of six month, the said component of secured advance shall be recovered from next running account bill paid to the agency. Secured advance on the same material shall not be paid again.

**59. List of approved laboratories for testing:-**

Laboratories approved by the competent authority i.e. **ADG (Lucknow)** or Successor thereof.

60. Contractor shall provide minimum three samples of three different makes for each item of work as per the list of approved makes for the approval of engineer-in-charge. It shall be the discretion of Engineer-in-charge to approve any of the three samples to be submitted by the contractor and decision of engineer-in-charge in this regard shall be final and binding and nothing extra, whatsoever, shall be admissible on this ground.
61. The contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. Nothing extra shall be payable to the contractor on this account.
62. The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including all equipment's, services provided by him against pilferage and breakage during the period of Installations and thereafter till the building is physically handed over in complete shape to the CPWD. The CPWD will take over the building after rectification of all defects. No extra payment shall be made on this account and no claim shall be admissible on this account.
63. The contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector /

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Central/State Govt. and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The contractor shall also adhere to all traffic restrictions notified by the local authorities. All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges) payable to such authorities for carrying out the work, shall be borne by the Contractor. The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor. The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the Department and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts. The fee payable to statutory authorities for obtaining the various permanent service connections and Occupancy Certificate for the building shall be borne by the Department.

64. The contractor shall protect and indemnify the CPWD, its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives or any of his other direct or indirect action taken in relation to the execution of this work. Nothing extra shall be payable on these accounts. In case of failure on part of the contractor in this respect, department shall be free to recover any such amount due to the contractor under this contract or any other contract under the government and the decision of the Engineer in charge in this regard shall be final and binding on the contractor.

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**SPECIAL CONDITIONS****1. SPECIAL CONDITIONS FOR CEMENT:**

- 1.1. The contractor shall procure 43 grade Ordinary Portland Cement (OPC) conforming to IS:8112/Portland Pozzolana Cement (PPC) conforming to IS: 1489 (Part-I) as required in the work, from reputed manufacturers of cement, such as ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, Century Cement, J.K. Cement, **or from any other reputed cement Manufacturer having a production capacity not less than one million tonnes per annum as approved by ADG for the region.**

The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work depending upon availability in the local market but conforming to the grade mentioned in NIT and only with ISI mark. The tender accepting authority reserves right to accept or reject name(s) of cement manufacturer(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially.

Supply of cement shall be made 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 the relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not confirm to the relevant BIS code 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.

- 1.2. The cement shall be brought at site in bulk supply of approximately **25 tonnes** or as decided by the Engineer-in-Charge.
- 1.3. The cement godown of the capacity to store a minimum of **1000 bags** of cement or as decided by Engineer-in-Charge shall be constructed by the contractor at site of work for which no extra payment shall be made.
- 1.4. Double lock provision shall be made to the door of the cement godown. 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 and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.
- 1.5. The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to test laboratories.

**The cost of tests shall be borne by the contractor.**

- 1.6. 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 38 of the General Condition of contract and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate show prescribed shall be made. In case of excess consumption, no adjustment need to made.

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- 1.7. The cement brought to site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer-in-Charge.
- 1.8. 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 three days of receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the contractor.
- 1.9. Cement bags shall be stored in separate godown to be constructed by the contractor at his own cost as per sketch (which is only indicative and actual size will depend on the site requirements) given in CPWD specifications with weather proof roofs and walls. The godown shall be provided with a single shutter door with two locks. The key of one lock shall remain with Engineer-in-charge or his authorized representative and that of the other lock with the authorized agent of the contractor at the site of work so that the cement is issued from the godown according to the daily requirements with the knowledge of both parties and proper account for the same is maintained in the standard proforma.
- 1.10. Separate cement registers showing the receipt of the OPC and PPC shall be maintained at site. The contractor shall construct separate godowns for storage of OPC & PPC at site and nothing extra on this account shall be payable.
- 1.11. In order to have an effective control over the issue of cement, the following drill should be observed:
  - (i) The cement godown(s) should be properly and effectively double locked, keys of one of the locks remaining with the department and that of the other with the contractor.
  - (ii) The pages of the Cement Register should be as per Appendix-28 of CPWD Works Manual, machine numbered and issued by the Engineer-in-charge.
  - (iii) Periodical checking of cement godown.: The cement godown and the Cement Register should be checked by the Assistant Engineer/Executive Engineer in-charge of the work as per following schedule:
    - a) At least weekly or fortnightly, respectively, in case of works at the headquarters of the Assistant Engineer/Executive Engineer.
    - b) Whenever they visit the site of work in case of works that are located outside the Sub-Divisional/Divisional headquarters.

## 2. SPECIAL CONDITIONS FOR STEEL REINFORCEMENT BARS:

- 2.1. The CPWD/Contractor shall procure IS marked corrosion resistant steel rebars of various grades from Primary Steel manufacturer viz. **SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd and JSW Steel Ltd** or their authorized dealers /authorized distributors. As different approved manufacturers are manufacturing low alloy steel to improve corrosion resistance property with different brand names. Contractor shall have to first get the brand of such low alloy steel of approved manufacturer from Engineer-in-charge.
- 2.2. Corrosion resistance steel rebars which are nothing but low alloy steel rebars shall meet the provision of IS 1786:2008 pertaining to Fe 500D or more grade of steel. Further clarification on CR steel is given as under:-
  - 2.2.1 Note 3 of Para 4.2 of amendment number 3 dated March, 2017 to IS: 1786 specifies as under:
 

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"Low alloy steel may be produced by adding alloying elements like Cr, Cu, Ni, Mo and P either individually or in combination, to improve corrosion resistance properties. However, the total content of these elements shall not be less than 0.40 percent. In such case, the manufacturer shall supply the purchaser or his authorized representative a test certificate stating the individual contents of all the elements. In such low alloy steels when phosphorous is used, it shall not exceed 0.12 percent and when used beyond the limit prescribed in 4.2, the carbon shall be restricted to 0.15 percent, and in such case the restriction to maximum content of sulphur and phosphorous as given in 4.2 and the condition of minimum all content 0.40 shall not apply."

~~2.2.2 It is accordingly clarified that Corrosion Resistant Steel (CRS) is in fact low alloy steel with improved corrosion resistance, as per above provision in IS: 1786~~

2.2.3 Therefore, the mechanical properties of such low alloy steel reinforcement bars shall be conforming to mechanical properties of equivalent grade of normal TMT reinforcement bars as per IS: 1786. However, its chemical properties shall be complying with guidelines pertaining to low alloy steel in IS: 1786.

2.2.4 In case, schedule of quantities of the agreement provides for only the TMT bars and does not contain any item for CR steel, then contractor shall procure IS marked TMT bars of grades 500D or more from Primary Steel manufacturer such as **SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd and JSW Steel Ltd** or any other steel manufacturer or their authorized dealers (as per selection criteria laid down by the Department from time to time) having valid BIS license for IS:1786-2008 (Amendment -1 November 2012).

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

2.3.1 The contractor shall obtain manufacture's certificate stating the process of manufacture, chemical composition and test sheet giving result of each mechanical test applicable to the material purchased and submit it to the Engineer-in-charge. Each test certificate shall indicate the number of the cast of which it applies, corresponding to the number or identification mark to be found on the material.

2.3.2 The Engineer-in-charge shall get each consignment tested for both chemical composition and physical properties (including bend and re-bend test) as specified in IS: 1786 from any Government laboratory.

2.4 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, 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.

2.5 The steel reinforcement bars shall be brought to the site in bulk supply of **10 tonnes** or more, or as decided by the Engineer-in-charge.

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

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

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

- 2.8 The contractor shall supply free of charge the steel required for testing including transportation to testing laboratories. **The cost of tests shall be borne by the contractor.**
- 2.9 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 procedure prescribed in clause 38 of the General Conditions of Contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations leading to under designing of the structure, the work shall be summarily rejected, otherwise recovery at the rate so prescribed shall be made after ensuring structural soundness and stability. In case of excess consumption, no adjustment need to be made.
- 2.10 Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
- 2.11 Steel bars brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
- 2.12 In case the contractor brings surplus quantity of steel the same after completion of the work will be removed from the site by the contractor at his own cost after approval of the Engineer-in-Charge.
- 2.13 Reinforcement including authorized spacer bars and overlaps shall be measured in length of different diameters, as actually (not more than as specified in the drawing) used in the work, nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.
- 2.14 The standard sectional weights referred to as in Table 5.4 under para 5.3.4 in CPWD Specifications for works 2019 Vol. 1 will be considered for conversion of length of various sizes of MS bars, Tor steel bars and TMT bars into standard weight.
- 2.15 Records of actual sectional weight shall also be kept dia-wise & lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer-in-Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as derived actual weight.

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- 2.16 If the derived weight as in para 2.15 above is lesser than the standard weight as in para 2.14 above, the derived actual weight shall be taken for payment. If the derived actual weight is found more than the standard weight then the standard weight as worked out in para 13 above shall be taken for payment. In such case nothing extra shall be paid for the difference between the derived actual weight and the standard weight.
- 2.17 Mixing of different type of steel/different grades of steel shall not be allowed in the same structural members as main reinforcement to satisfy clause 26.1 of IS:456.
- 2.18 Tolerances on Nominal Mass (individual sample) shall be as under:

S. No.	Nominal size mm	Tolerances on the Nominal Mass (in %age)
1	Upto and including 10 mm	-8%
2	Over 10 upto& including 16 mm	-6%
3	Over 16 mm	-4%

- 2.19 The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be used in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and copy of Test Certificates and furnish the same to the Engineer-in-charge in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers shall be returned to contractor after verification. The copy of original vouchers and copy of test certificates shall not be defaced by the Site staff and kept on record in the site office.
- 2.20 The reinforcing steel brought to site of work shall be stored on brick/ timber platform of 30/40 cm height, nothing extra shall be paid on this account.
- 2.21 ~~If corrosion resistant steel rebars are not available: As a matter of policy only corrosion resistant steel bars are to be used for the work. It has been observed that CRS bars are not available/ or have delayed delivery in few instances. Considering the practical situation and to take care of such instances, the Engineer in charge may allow use of TMT bars of same grades as specified in that NIT from the list of approved makes, given elsewhere in the NIT.~~
- ~~In such case, payment under agreement item for TMT bars shall only be made and nothing shall be paid under the agreement item, extra for CRS steel instead of TMT bars.~~
- 3 SPECIAL CONDITIONS FOR PREVENTION OF AIR POLUTION AS PER DIRECTIVES OF NATIONAL GREEN TRIBUNAL (NGT):**
- 3.2 The contractor shall not store/dump construction material or debris on metalled road.
- 3.3 The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the

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- pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
- 3.4 The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area. Nothing extra shall be paid on this account unless provided otherwise.
  - 3.5 The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purpose or are carrying construction material like cement, sand and other allied materials are fully covered. The contractor shall take all necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air / contaminate air.
  - 3.6 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.
  - 3.7 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 relating to dust emission.
  - 3.8 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.
  - 3.9 The contractor shall ensure compulsory use of wet jet in grinding and stone cutting.
  - 3.10 The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
  - 3.11 The contractor shall comply all the upto date preventive and protective environmental steps as stated in the MoEF guidelines, 2010. Subsequent directions issued by MOEF, NGT, CPCB, state PCB or any other appropriate govt. authority that may have been prescribed for construction works in **NCZCC Prayagraj** shall have to be strictly complied with by the contractor. Nothing extra shall be paid beyond the quoted rates on this account on the rates already quoted by the contractor shall be deemed to be inclusive of such provisions except for provided otherwise.
  - 3.12 The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
  - 3.13 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.
  - 3.14 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.
  - 3.15 The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.

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## PARTICULAR SPECIFICATIONS

### 1.0 EARTH WORK

- 1.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol.I & Vol. II and National Building Code 2016 with upto date correction slips.
- 1.2 Excavation shall be undertaken to the width of the Basement / Retaining wall footing including necessary margins for construction operation as per drawing or directed otherwise. Where the nature of soil or the depth of the trench and season of the year, do not permit vertical sides, the contractor at his own expense shall put up the necessary shoring, strutting and planking or cut slopes with or without steps, to a safer angle or both with due regard to the safety of personnel and works and to the satisfaction of the Engineer, Measurement of plan area of excavation for payment shall be permitted only. Nothing extra shall be paid for making steps and slopes etc. as required.
- 1.3 The contractor shall make at his own cost all necessary arrangements for maintaining water level, in the area where works are under execution low enough so as not to cause any harm to the works or problems in carrying out with the execution and the rates for all items of work shall be considered as inclusive of pumping out or bailing out water, if required, for which no extra payment shall be made. This will include water coming from any source, such as rains, accumulated rain water, floods, leakages from sewer and water mains, subsoil water table being high or due to any other cause whatsoever. The contractor shall make necessary provision of pumping, dredging, and bailing out water coming from all above sources and excavation and other works shall be kept free of water by providing suitable system approved by the Engineer-in-charge.
- 1.4 Sub-soil water table at work site is reported to be about 2.0 m below general ground level. The water level may vary due to rainy season or due to dewatering etc. in order to avoid possibility of basement floor of building being getting uplifted/damaged due to water pressure, the contractor shall make arrangement for lowering the ground water table below the proposed foundation level as approved by Engineer-in-charge. Sub soil water table shall be maintained at least 50 cm below the P.C.C. level during laying of P.C.C., water proofing treatment, laying of basement raft and beams including filling of earth/sand under the basement floor. The water table shall not be allowed to rise above base of raft level until completion of outer retaining walls including water proofing of vertical surface of walls and back filling along the walls up to ground level and until the structure attains such height to counter balance the uplift pressure. However, the contractor should inspect the site and make his own assessment about sub-soil water level likely to be encountered at the time of execution and quote his rates accordingly. Rate of all items are inclusive of pumping out or bailing out water, if required. Nothing extra on this account whatsoever shall be paid to him unless otherwise specified. The sequence of construction shall be got approved by the Engineer-in-charge.

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- 1.5 All the major excavation shall be carried out by mechanical excavator. No extra payment shall be made for that.
- 1.6 Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.
- 1.7 The rates of items related to earthwork shall be inclusive for depths up to 3 m, superseding the depth mentioned in any related item of Schedule of Quantities & nothing extra shall be paid for additional lift etc.

## 2.0 CONCRETE WORK

- 2.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 2.2 If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorized variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work, the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in clause 38 the cost of quantity of cement so less used shall be recovered from the contractor at the rate as specified in schedule 'F'. Decision of the Engineer-in-Charge in regard to the quantity of cement which should have been actually used as per the schedule and recovery at the rate specified shall be final and binding on the contractor.
- 2.3 For non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantity of the cement which should have been actually used shall be final and binding on the contractor.

## 3.0 RCC/CC WORK (DESIGN MIX CONCRETE)

- 3.1 The Design Mix Concrete will be designated based on the principles given in BIS codes IS:456, IS:10262 & SP:23. The condition and specifications stated herein shall have precedence overall conditions and specifications stated in relevant BIS codes/CPWD specifications. The concrete mix shall be designed for specified target mean compressive strength in order to ensure that the work test results do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. The mix shall be designed with quantities of admixture / plasticizer proposed to achieve required workability & strength. The specifications mentioned here in below shall be followed for Design Mix Concrete.
- 3.2 The sources of coarse aggregate, fine aggregate & water to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specification & their availability before getting the same approved by the Engineer-in-Charge.

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- 3.3 Coarse Aggregate: As per CPWD Specifications - 2019 - Vol.I& Vol. II with up to date correction slips.
- 3.4 Fine Aggregate: As per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 3.5 Water: It shall confirm to requirements laid down in IS:456-2000 / CPWD Specifications - 2019 - Vol.I & Vol. II with upto date correction slips.
- 3.6 Cement: PPC shall be used for design mix concrete and shall conform to IS-1489 (part-I). However, if higher grade of cement is used by the contractor nothing extra shall be paid on this account.
- 3.7 Admixtures / Plasticizers: - The admixture shall confirm to IS:9103, wherein required, the admixture of approved quality and approved make only shall be used to attain the required workability. Nothing extra shall be paid for use of admixtures.
- 3.8 Grade of Concrete: The compressive strength of various grades of concrete, Characteristic Compressive Strength, water cement ratio and slump shall be as per IS:456-2000.

**NOTE:**

- (i) In case where the quantity of cement required as per Design Mix is lower than the quantity specified in the respective item in the “schedule of quantity”, necessary deduction for less quantity of cement used shall be made from the contractor.
- 3.9 The concrete mix design/laboratory tests with and without admixture shall be got done by contractor at his own cost and will be carried out by the contractor through one of the following laboratory/Test houses:
- (i) IIT-BHU, IIT-Kanpur
- (ii) MNNIT-Allahabad
- (iii) HBTI-Kanpur
- (iv) Approved Lab/Govt. Engineering Institutions as directed by the Engineer-in-charge.
- 3.10 The contractor shall submit the report on design mix from any of above approved laboratories for approval of Engineer-in-Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. In case of white Portland cement and the likely use of admixtures in concrete with ordinary Portland/white Portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and / or admixtures also, for which nothing extra shall be payable.
- 3.11 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-Charge.

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### 3.12 Trial Batches:

- 3.12.1 The designed mix proportion shall be checked for target mean compressive strength by means of trial batches.
- 3.12.2 The quantities of materials for each trial mix shall be sufficient for at least six specimens (cubes) and the concrete required for carrying out workability tests.
- 3.12.3 The workability of trial mix No. 1 shall be measured and mix shall be carefully observed for freedom from segregation, bleeding and its finishing characteristics. The water content, if required, shall be adjusted corresponding to the required changes in the workability.
- 3.12.4 With the modified water content, the mix proportions shall be recalculated by keeping with water cement ratio unchanged. The mix proportions, as modified, shall form the Trial Mix No. 2 and tested for the specified strength and workability.
- 3.12.5 In addition, trial mix No. 3 and 4 shall be designed by keeping water contents same as that determined for trial mix 2 but varying the water cement ratio + 10 percent of the specified value and tested for their design characteristics.

- 3.13 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor including redesigning of the concrete mix wherever required and directed by Engineer-in-Charge.

### 3.14 APPROVAL OF DESIGN MIX:

The mix design for a specified grade of concrete shall be done for a target mean compressive strength

$$T_{ck} = F_{ck} + 1.65s$$

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

$s$  = Standard deviation which depends on degree of quality control.

The degree of quality control for this work is "good" for which the standard deviation ( $s$ ) obtained for different grades of concrete shall be as follows:

GRADE OF CONCRETE	STANDARD DEVIATION(S)
M-25	As per IS 456: 2000
M-30	
M-35	
M-40	

Minimum three sets of separate preliminary test shall be carried out for each trial batch of concrete mix. Each test shall comprise six specimens and only one test set of six specimens shall be made on any particular day. Out of the six specimens of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days. While the design mix shall be approved only on the basis of test strength of 28 days. The design mix shall be considered satisfactory and approval if at least three preliminary tests- sets individually satisfy the following strength and workability criteria:

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- (a) The average strength of each test sets is not less than the specified target mean compressive strength ( $T_{ck}$ ).
- (b) The strength of any specimen cube is not less than  $0.85 T_{ck}$ .
- (c) The concrete mix is required degree of workability and acceptance concrete finish.

3.15 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor.

### 3.16 WORK STRENGTH TEST:

#### TEST SPECIMEN:

Work strength test shall be conducted in accordance with IS:516 on random sampling. Each test shall be conducted on six specimens, three of which shall be tested at 7 days and remaining three at 28 days.

#### TEST RESULTS OF SAMPLES:

The test results of the sample shall be the average of the strength of three specimen. The individual variation shall not be more than + 15% percent of the average. If variation is more, the test results shall be treated as invalid. 90% of the total tests shall be done at the laboratory established at site by the contractor and remaining 10% in the laboratory of IIT/NIT or in any other laboratory as directed by the Engineer-in-Charge.

#### LOT SIZE:

The minimum frequency of sampling of concrete of each grade shall be in accordance with the following:

QUANTITY OF CONCRETE IN THE WORK (CUBIC METRE PER DAY).	NUMBER OF SAMPLES
1-5	1
6-15	2
16-30	3
31-50	4
51 & above	4 Plus one additional sample for each additional 50 cubic meters of part thereof

NOTE: - At least one sample shall be taken from each shift.

### 3.17 STANDARD OF ACCEPTANCE:

- (i) In case the test results of all the samples are above the characteristic compressive strength, the concrete shall be accepted.
- (ii) In case the test result of one or more samples fails to meet the requirement (i) above, it shall be accepted if both the following conditions are met:
  - a. Any individual test result is not less than  $(F_{ck} - 4) N/mm^2$ .

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- b. The mean of test results from any group of four consecutive samples is more than  $(F_{ck} + 4) N/mm^2$ .
- (iii) Concrete of each grade shall be assessed separately.
- (iv) Concrete is liable to be rejected, if it is porous or honeycombed, its placing has been interrupted without providing a proper construction joint, the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met.
- 3.18 The contractor has to arrange at site sufficient centering and shuttering for before two months from stipulated date of start of work. Only MS centering / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor as approved by the Engineer-in-Charge.
- 3.19 Nothing extra shall be paid for the centering and shuttering, circular in shape whenever the form work is having a mean radius exceeding 6m in plan.
- 3.20 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.
- 3.21 As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 25-50 mm as required lower than general floors shuttering should be adjusted accordingly and slabs should be laid with slope towards the drainage point. Nothing extra is payable on this account.
- 3.22 Contractor has to provide reinforcement cover blocks made of approved proprietary pre packed free flowing mortars (Conbextra as manufactured by M/s Fosroc Chemical India Ltd. or approved equivalent) of high early strength nothing extra shall be paid on this account.
- 3.23 **PRODUCTION OF CONCRETE**

All concrete shall be produced at site through Semi-automatic weigh-batching plant of suitable capacity (not less than 10 cum/hr.) conforming to IS:4925 with the arrangements for automatic dispensing of water and admixture and having facility of giving print out indicating weight / details of all ingredient of concrete in each lot/ batch and variations from the approved design mix if any. ~~Fully automatic batching and mixing plant having capacity not less than 30 cum/ hour shall be installed at the arranged site by the contractor.~~ The batching and mixing plants shall be dedicated plants for this project. Contractor shall make his own arrangements for the necessary infrastructure for installation of batching plant and other machineries. However, if due to any reason, contractor wishes to supplement the concrete from Ready Mix Concrete (RMC) supplier, he is permitted to procure the same from the source approved by the Engineer-in-charge

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at his own cost. In such a situation nothing extra shall be paid to the contractor. All technical requirements such as cement type and minimum cement quantity, w/c ratio, slump, admixture etc. shall be conveyed to RMC supplier by the contractor and contractor shall be wholly responsible for ensuring the property of concrete as required at site, nothing extra shall be paid to the contractor.

The contractor may take some time to install his own batching plants at the arranged site and till the batching plants are installed, the contractor is permitted to procure concrete from approved Ready-Mix Concrete (RMC) supplier for a period of **02 months** from date of start of work or the period as agreed by Engineer-in-Charge. Similarly, when the work is nearing completion and daily requirement of concrete is very less, if agreed by the Engineer-in-Charge, the contractor may be permitted to procure the concrete from approved Ready-Mix Concrete (RMC) supplier and nothing extra shall be paid to the contractor on this account.

### 3.24 LAND FOR TEMPORARY USE

The land for labour camps & batching Plant shall be arranged by the contractor. The lease/rent charges shall be borne by the contractor. The Engineer-in-Charge shall extend necessary help and issue necessary recommendations etc. to the concerned clients / department for temporary allotment of land during construction period if land is available with them. In such cases, the contractor shall vacate the land after completion of work in same condition as was at the time of allotment.

### 3.25 BATCHING PLANT

The batching and mixing plant shall be Semi-automatic of suitable capacity not less than 10 cum/hour. Automatic batcher shall be charged by devices which when actuated by a individual/ separate starter switches will automatically start the weighing operation of each material and stop automatically when the designated weight of each material is fed in the mixer. The batching plant shall have automatic arrangement for dispensing the admixture and shall be capable of discharging water in more than one stage. A batching plant essentially shall consist of the following components:

- Separate storage bins for different sizes of aggregates, sand and cement, water storage tank.
- Batching equipment
- Mixers
- Control Panels
- Mechanical material feeding and elevating arrangements

The compartments of storage bins for aggregates shall be approximately of equal size. The cement compartment shall be centrally located in the batching plant. It shall be water tight and provided with necessary air vent, aeration fittings for proper flow of cement & emergency cut off gate. The aggregate and sand shall be charged by power operated

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centrally revolving chute. The entire plant from mixer floor upward shall be enclosed and insulated. The batch bins shall be constructed so as to be self-cleansing during draw-down. The batch bins shall in general conform to the requirements of IS:4925.

The batching equipment shall be capable of determining and controlling the prescribed amounts of various constituent materials for concrete accurately i.e. water, cement, sand, individual size of coarse aggregates etc. The accuracy of measuring devices shall fall within the following limits.

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

The batching and mixing plant shall have the provision of adjusting the plus / minus quantity of various ingredients in the next batch so that there is no variation in quantity of ingredients from design mix in a lot consisting of 5 to 6 batches.

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

### 3.26 TRANSPORTATION, PLACING AND COMPACTION OF CONCRETE

Mixed concrete from the RMC / Batching plant shall be transported to the point of placement by transit mixers and placed in position through concrete pumps and/or steel closed bottom buckets capable of carrying minimum 0.6 cum concrete. In case the concrete is proposed to be transported by transit mixer, the mixing speed shall not be less than 4 rev/min. of the drum nor greater than a speed resulting in a peripheral velocity of the drum 70 m/minutes at its largest diameter. The agitating speed of the agitator shall be not less than 2 rev/min nor more than 6 rev/min of the drum. The number of revolution of the mixing drum or blades at mixing speed shall be between 70 to 100 revolutions for a uniform mix, after all ingredients, have been charged into the drum. Unless tempering water is added, all rotation after 100 revolutions shall be at agitating speed of 2 to 6 rev/min and the number of such rotations shall not exceed 250. The general construction of transit mixer and other requirement shall conform to IS:5892.

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

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shall be free of dents at all stages. Special precaution shall be taken that surrounding temperature during concreting shall not exceed 30 degree centigrade.

Except where otherwise agreed to by the Engineer-in-Charge, concrete shall be deposited in horizontal layers to a compacted depth of not more than 450 mm. Unless agreed to by the Engineer- in-Charge, concrete shall not be dropped into place from a height exceeding 1.5m. In order to avoid such situations chutes, tremie pipe or closed bottom buckets shall be used. These shall be kept clean and used in such a way as to avoid segregation. Slope of the chute shall be so adjusted that concrete flows without the use of excessive quantity of water. The delivery end of chute shall be as close as possible to the point of deposit. The chute shall be thoroughly flushed with water before and after each working period and the water used for this purpose shall be discharged outside the formwork. The concrete shall be compacted by using immersion type vibrators. When the concrete is being continuously deposited to a uniform depth along a member, vibrator shall not be operated within one meter of free end of the advancing concrete. Every effort shall be made to keep the surface of the previously placed layer of concrete alive so that the succeeding layer can be amalgamated with it by the vibration process. In case the concrete in underlying layer has hardened to such an extent that it cannot be penetrated by the vibrator but is still fresh (that is, just after initial set), un-imposed bond shall be achieved between the top and underlying layer by first scarifying the lower layer before the new concrete is placed by systematically and thoroughly vibrating the new concrete. The points of insertion of vibrator in the concrete shall be so spaced that the range of action overlap to some extent and the freshly filled concrete is sufficiently consolidated at all locations. The spacing between the dipping positions of vibrator shall be maintained uniformly throughout the surface of concrete so that concrete is uniformly vibrated. The vibrating head shall be regularly and uniformly inserted in the concrete so that it penetrates of its own accord and shall be withdrawn slowly whilst running so as to allow redistribution of concrete in its way and allow the concrete to flow back into the hole behind the vibrator. The vibrator head shall be kept in one position till the concrete within its influence is completely consolidated. Vibration shall be continued until the coarse aggregate particle have blended into the surface but have not disappeared. The contractor shall keep at least one additional vibrator in serviceable condition to be used in the event of breakdowns and maintenance problems.

The vibrator head shall not be brought more than 200 mm near to the formwork as this may cause formation of water stagnations. The formwork shall be strong and great care shall be exercised in its assembly. It shall be designed to take up increased pressure of concrete and pressure variations caused in the neighbourhood of vibrating head, which may result in excessive local stress on the formwork. The joints of the formwork shall be made and maintained tight and close enough to prevent the squeezing out slurry or sucking in of air during vibration. The formwork to receive concrete shall be cleaned and made free from standing water, dust, etc. The contractor shall keep provision for screed and shutter vibrators at site.

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No concrete shall be placed in any part of the structure until the approval of Engineer-in-Charge has been obtained. If concreting is not started within 24 hours of the approval being given, it shall have to be obtained again from the Engineer-in-Charge. Concreting shall be done continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept, clean, thoroughly wetted and covered with a 13 mm thick layer of mortar composed of cement and sand in the same ratio as in the concrete mix itself. The 13 mm layer of mortar shall be freshly mixed and placed immediately before placing of new concrete.

Where concrete is not fully hardened, all latency shall be removed by scrubbing the wet surface with wire or bristle brushes. Care shall be taken to avoid dislodgement of particles of coarse aggregate. The surface shall then be thoroughly wetted, all free water removed and then coated with neat cement grout. Particular attention shall be given to corners and close spots.

In case of rejection of concrete on account of unacceptable compressive strength, governed by para "Standard of Acceptance" as above, the work for which samples have failed shall be redone at the cost of contractor. However, the Engineer-in-Charge may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure on part of structure, etc) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The Contractor shall take remedial measures necessary to retain the structure as approved by the Engineer-in-Charge without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance with the CPWD Specification- 2019.

#### **4.0 SHUTTERING / FORM WORK/ REINFORCEMENT**

- 4.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol. II with upto date correction slips.
- 4.2 Steel shuttering as approved by the Engineer-in-Charge shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required to complete the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.
- 4.3 The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or debonding compound shall be applied on the surface of the shutter plates in the requisite quantity before assembly of steel reinforcement.
- 4.4 The joint filler shall be resilient closed cell expanded polyethene and non-tainting as manufactured by Supreme Industries Ltd.

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- 4.5 Providing joint filler of required thickness in position to substrate using either double sided foam adhesive tape or neoprene synthetic rubber adhesive. When forming expansion joint with the Board in in-situ concrete, joint sealing slots can be readily formed in the following matter-
- Before installing, simply cut off a strip of the required depth. Then install the filler flush with the finished surface.
  - Prior to sealing, the top strip can then be pulled easily from the joint to provide an uncontaminated sealing slot ready for preparation and sealing.
- 4.6 To avoid displacement of reinforcement bars in any direction and to ensure proper cover, only factory made round type/rectangular cover blocks shall be used by the contractor. Nothing extra shall be payable on this account.

## 5.0 SCAFFOLDING

- 5.1 Double steel scaffolding having two sets of vertical supports shall be provided. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding planks shall be fixed. Nothing extra shall be paid on this account.

## 6.0 WOOD WORK

- 6.1 The wood work in general shall be carried out as per CPWD Specifications - 2019 Vol.I& II with upto date correction slips.
- 6.2 The samples of species of timber to be used shall be got approved and deposited by the contractor with the EE before commencement of the work. The contractor shall produce cash vouchers and certificates from kiln seasoning or/and chemical treatment plants about the timber section to be used on the work having been kiln seasoned or/and chemically treated by them.
- 6.3 Factory made shutter as specified shall be obtained from factories approved by the Engineer in charge. The contractor shall inform well in advance to the Engineer-in-charge the names and address of the factory from where 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 to the Engineer-in-charge or his authorized representative. Contractor will have no claim if the shutters brought at site are rejected by Engineer-in-charge in part or in full lot due to bad workmanship / quality even after inspection of factory. 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 instruction in this regard are issued by Engineer in Charge or his authorized representative.

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- 6.4 All fittings and fixtures shall be got approved from the Engineer-in Charge before procurement well in advance and the approved samples shall be kept at site till completion of the work.
- 6.5 Glazing for toilets shall be of translucent type.
- 6.6 The shape and size of beading shall be as per drawings. The joints of beading shall be mitred.

## 7.0 FALSECEILING WORK

- 7.1 The luminaries, air grills / diffusers, signage's etc. shall be as far as possible independently supported to avoid any over loading of the ceiling system which may result in excessive deflection or twisting of grids.
- 7.2 Any strengthening of grid system by providing additional hangers, fasteners, runners, cross tees etc. or providing additional bracing may be carried out as required for any specific locations or for specific purpose for which nothing extra shall be payable.
- 7.3 Various false ceiling systems shall include cost of all inputs of labour, materials, wastage if any, T&P, scaffolding, staging or any other temporary enabling structure / services etc. and all other incidental charges including making necessary cut outs for A.C diffusers, Light fittings, grills, Fire detection, alarm, sprinklers devices and fittings etc.
- 7.4 No deduction in the area shall be made for openings nor anything extra shall be payable for making the openings. Also nothing extra shall be payable on account of any wastage in materials. Also, nothing extra shall be payable on account of any strengthening of the supporting suspension system for the false ceiling, around the openings in the false ceiling by using additional hangers, fasteners, runners, cross tees, cross channels, etc.
- 7.5 The false ceiling may be required to be fixed from RCC roof or steel trusses. In case, the false ceiling is fixed from the steel truss, bottom ties etc., proper arrangement such as brackets etc., as per manufacturer's specification and approval of Engineer-in-charge, are to be provided for fixing hanger rod from the structural member. Nothing extra shall be paid on this account.
- 7.6 Scaffolding provided for carryout the false ceiling work at any level is deemed to be included item itself.

## 8 Wall panelling

- 8.1 The wall panelling shall be provided as per the CPWD specification and the items in schedule of quantities.
- 8.2 Panelling shall be done true to the line and level as per the drawings and direction of Engineer-in-charge.
- 8.3 Contractor shall prepare external paneling layout drawings and Internal framework drawing as per the relevant items for the approval of Engineer-in-charge.
- 8.4 The framework for the panelling shall be provided as per the item. Necessary cuts for passing of service/electrical conduits pipes etc. shall be provided in the framework. Nothing extra shall be paid on this account.

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- 8.5 For providing electrical & services fixtures on the wall panelling, necessary opening in the panelling board shall be made. If strengthening is required in the frame behind, it shall be done properly. Nothing extra shall be paid on these account.
- 8.6 The exterior colour of the panelling shall be provided as per the approval of Engineer-in-charge. There can be more than colour/pattern in a wall panelling item. Nothing extra shall be paid on this account.
- 8.7 Scaffolding provided for carryout the panelling work at any level is deemed to be included item itself.

## 9. FLOORING

- 9.1 All work in general shall be carried out as per CPWD Specifications- 2019 - Vol.I& Vol. II with upto date correction slips.
- 9.2 Whenever flooring is to be done in patterns tiles/ stone, the contractor shall get samples of each pattern laid and approved by the Engineer-in-Charge before final laying of such flooring for which nothing extra shall be paid.
- 9.3 Different stones/ tiles used in pattern flooring as per the approved architectural drawings and nothing extra for laying pattern flooring shall be paid. No additional wastage if any shall be accounted for any extra payment.
- 9.4 The rate of items of flooring is inclusive of providing sunken flooring in bathrooms, kitchen etc. and nothing extra on this account is admissible. The samples of flooring, dado & skirting as per approved pattern shall be prepared & got approved from the Engineer-in-charge before execution of work.
- 9.5 Nothing extra shall be payable for using combination of marble, granite and kota in the required pattern at various locations unless otherwise specified.
- 9.6 The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge and nothing extra shall be paid on account of the same.
- 9.7 Different stones / tiles used in pattern flooring shall be measured separately as defined in the nomenclature of the item and nothing extra for laying pattern flooring shall be paid over and above the quoted rate. No additional wastage, if any, shall be accounted for any extra payment.
- 9.8 Proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard etc. so that the wash water flows towards the direction of floor trap. Any reverse slope if found, shall be made good by the contractor by ripping open the floor/grading concrete and nothing shall be paid for such rectifications.
- 9.9 The stone slabs used for providing and fixing in the sills, soffits and jambs of doors, windows, ventilators and similar locations shall be in single piece unless otherwise directed by the Engineer-in-Charge. Wherever stone slab other than in single piece is allowed to be fixed, the joints shall be provided as per the architectural drawings and as

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per the directions of the Engineer -in-Charge. In the cabin areas, the joints in sills shall preferably be provided in line with the partition wall. Depending on the number of joints, as far as possible, the stone slabs shall be procured and fixed in slabs of equal lengths as per the architectural drawings and as directed by Engineer in-Charge. **Nothing extra shall be paid on providing single piece stones in aforesaid location unless otherwise provided in the schedule of quantity.**

- 9.10 All the flooring works specified under this sub -head shall be adequately protected by a layer of plaster of paris which shall be laid over a 400 micron PVC film. The protective layer shall be maintained throughout the execution of works and removed just before handing over of the site for which nothing extra shall be payable.
- 9.11 All holes, rebates, recesses etc. for providing fixing and inserts shall be predrilled and precut and worked using precision machine tools. Nothing extra on this account shall be payable.
- 9.12 One-piece Granite stone for treads / risers in steps and staircase shall be used and nothing extra shall be paid on this account.
- 9.13 All corner joints of tiles/stone in dado shall be made by chamfering the edges of tiles to 45 degree to produce a fine mitred joint and filling same with matching grout. Nothing extra shall be paid on this account.

#### 10. STAINLESS STEEL RAILING/HANDRAILS:

- 10.1 GENERAL: The contractor shall apply all materials, labour, tools, ladders, scaffolding and other equipment necessary for the completion and protection of all stainless-steel work.
- 10.2 MATERIAL: All stainless-steel pipes and plates shall conform to AISI 316/304 grade and the relevant clauses associated with this grade of steel to be followed.
- 10.3 SURFACE FINISH: Surface finish of all the stainless-steel materials will be in 240 grit satin finish / matt finish.
- 10.4 ACCESSORIES: Fixing will be done by stainless steel expansion bolts of approved size and make as per Engineer-in-charge and welding to be done by using organ welding rods and the surface being duly finished and cleaned by K2 passivation, which is nitric acid plus fluoric acid solution treatment by which the chances of corrosion will be eliminated and any burn out makes on the metal will also be eliminated.
- 10.5 COATING MASS: All stainless-steel material will have to be coated by a solution of Inox to avoid finger in prints and avoidance of settlement of environment / atmospheric dust.

#### 11. WATER PROOFING TREATMENT

- 11.1 Work shall be executed as per CPWD Specifications, 2019 Vol I & II with upto date correction slips.

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- 11.2 The contractor shall associate himself with the specialized firm, to be approved by the Engineer-in-charge in writing, for water proofing treatment for basement/lower ground floor, underground tank and on roofs.
- 11.3 The brick bats shall be from over burnt bricks. The water proofing compound used in integral water proofing treatment shall satisfy all the performance requirements indicated in IS:2645 and shall be got tested before its use. The compound shall be used @ 2% by weight of cement used or as recommended by the manufacturer.
- 11.4 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approved of the 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.
- 11.5 The finished surface after water proofing treatment for roof slab shall have smooth slope with minimum gradient of 1 in 80.
- 11.6 Before commencement of treatment on roof surface, it shall be ensured that the outlet drain pipes/ spouts have been fixed and the spout opening have been eased and rounded off properly for easy flow of water.
- 11.7 The surface where the water proofing is to be done shall be thoroughly cleaned with wire brushes. All loose scales mortar splashes etc. shall be removed and dusted off. The surface shall be treated with neat cement slurry admixed with proprietary water proof compound to penetrate into crevices and fill up all the pores in the surface.
- 11.8 This cement slurry shall be applied at the junction of parapet and terrace slab including the vertical face of the parapet.
- 11.9 After the slurry coat is laid, layer of over burnt brick bats shall be laid in cement mortar of mix as specified by specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound to required gradient and joints filled to half the depth. The bricks bat layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300mm. Curing of this layer shall be done for 2 days.
- 11.10 After curing the surfaces shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.
- 11.11 Joints of bricks bat layer shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound and finally top finished with average 20 mm thick layers of cement mortar 1:4 (1 cement : 4 coarse sand) and finished smooth with cement slurry mixed with proprietary water proofing compound. The finished surface shall have marking of 300x300 mm false squares to give the appearance of tiles.

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11.12 Curing of water proofing treatment shall be done for a minimum period of two weeks by flooding the water by making compartments etc.

11.13 **GUARANTEE:**

The water proofing work shall carry Ten Years guarantee to be reckoned from the date of completion of the entire work under the contract against faulty workmanship, finishing, unsound materials, efficiency of water proofing treatment and other related problems.

**Ten Years Guarantee bond** in prescribed Performa attached herewith as **Annexure-II** 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 main contractor.

**In addition Ten percent (10%) of the cost of water proofing work** shall be retained as security deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the contract, if the performance of the work done is found satisfactory. However, half of this retained amount is released after 5 years, if the performance of the work is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor.

Further, the security deposit so deducted may be released in full against FDR/ bank guarantee of equivalent amount in favour of Engineer in charge, if so decided by the Engineer in charge.

The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

12. **SPECIFICATIONS FOR ALUMINIUM DOOR, WINDOW, VENTILATOR WORKS:**

12.1 Extent and Intent:

12.1.1 The work shall be carried out through an approved specialized agency, who shall furnish all materials, labour, accessories, equipment, tool and plant and incidentals required for providing and installing aluminum doors, windows, claddings, louvers and other items as called for on the drawings. The specialized agency for the Aluminium work shall be got approved from the Engineer-in-charge, well before actual commencement of the item of work. Necessary performance certificates in respect of agencies proposed to be engaged shall be submitted within 30 days from the date of issue of acceptance letter to substantiate technical capability and experience of the agency for prior approval of the Engineer-in-charge.

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12.1.2 The drawings and specifications cover the major requirement only. The supplying of additional fastenings, accessory features and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract.

**12.2 General:**

12.2.1 Work shall be carried out as per CPWD Specifications- 2019 Vol.I &Vol.II with upto date correction slips.

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

**12.3 Shop Drawings:**

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

**12.4 Samples:**

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

**12.5 Sections:**

Minimum doors and windows shall be fabricated from extruded section of profile of detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-charge. The aluminum extruded sections shall conform IS designation 63400-WP (HV9WP Old designation) with chemical composition and technical properties as per IS:733 and IS:1285. The permissible dimensional tolerance of the extruded sections shall be such as not to impair the proper and smooth function/ operation and appearance of doors and windows.

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**12.6 Fabrication:**

Doors, windows, etc. shall be fabricated to sizes as shown at factory and shall be of section, sizes combinations and details as shown in the Architectural Drawings. However, NIT approving authority on the recommendation of Engineer-in-charge may allow the site fabrication under unavoidable/ peculiar instances. All doors, windows etc. shall have mechanical joints. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joint and accessories such as cleats, brackets, etc. shall be of such materials as not to cause any bimetallic action. The fabrication of doors, windows, etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring to support and fixing of hardware and other fixtures as approved by the Engineer-in-Charge.

**12.7 Handling and stacking:**

12.7.1 Fabricated materials shall be stacking in an approved manner to protect the material against any damage during transportation. The loading and unloading shall be carried out with utmost care, on receipt of materials at site, they shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged piece/ parts. Materials found to be acceptable on inspections shall be repacked in crates and stored safely.

12.7.2 In the case of Composite windows and doors, the different units are to be assembled first. The assembled Composite units should be checked for line, level and plumb before final fixing is done. Units may be serial numbered and identified as how to be assembled in their final location of situation so warrants.

12.7.3 Where aluminum comes into contact with masonry brickwork, concrete, planter or dissimilar metals, it shall be coated with approved insulation lacquer, paint or plastic tape to ensure that electro- chemical corrosion is avoided. Insulation material shall be trimmed off to a clean flush line on completion.

12.7.4 The contractor shall be responsible for assembling Composite, bedding and filling the groove with backup roads polysulphide sealant inside and outside, placing the doors, windows etc. in their respective opening. After the doors/ windows have been fixed in their correct assigned position, the open hollow sections abutting masonry concrete shall be fitted with approved polysulphide sealant densely packed and neatly finished.

12.7.5 The contractor shall be responsible for doors, windows, etc. being set straight plumb, level and for their satisfactory operation after fixing is complete.

**12.8 Installation**

12.8.1 Just prior to installation the doors, windows etc. shall be uncrated and stacked on edge on level bearers and supported evenly. The frame shall be fixed into position true to line and level using adequate number of expansion machine

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bolts, anchor fasteners of approved size and manufacturer and in an approved manner. The holes in concrete/ masonry members for housing anchor bolts shall be drilled with an electric drill.

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

12.9 Protection & Cleaning: The contractor shall adequately protect all components and accessories from damage during shipments, storage at job site, erection and after completion of the work. At such time as may be directed, the sub-contractor shall remove all protective tapes or coating, thoroughly clean all anodized aluminum and glass surfaces with suitable cleaning agent, make final adjustments to all ventilators, etc. and hardware leaving all in first class working order.

#### 12.10 Details of Tests

12.10.1 The minimum number of tests for powder coating and corrosion resistance shall be as given below:

S. No.	Details	No. of Tests
1	Doors, Windows & Ventilators	One test for every 1000 kg or part thereof but at least one test for each type of section used

12.10.2 The samples of major member of each unit of doors/ windows shall be selected at random by Engineer-in-Charge as such that all the aluminum section be got tested.

12.10.3 The cost of samples, carriage or the samples and testing charges, if any, shall be borne by the contractor.

### 13. SANITARY INSTALLATIONS, WATER SUPPLY AND DRAINAGE

13.1 The scope of work comprises supply, laying, installation, commissioning and testing of water supply, sewerage and drainage works including sanitary fixtures and fittings. These works shall be executed as per the specifications of items attached and CPWD specifications- 2019 Vol. I & II with up-to-date correction slips up to the date of tender submission.

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- 13.2 The work of water supply and sanitary installations shall be got executed by the agency as approved by Engineer-in-Charge.
- (i) The entire plumbing drawing and sanitary installation drawing/ details shall be submitted by the contractor and got approved by the Engineer-in-Charge before the execution.
- (ii) The entire responsibility for the quality of work will however rest with the building contractor only.
- 13.3 The work of water supply, internal sanitary installations and drainage etc. shall be carried out as per the bylaws of the Municipal Corporation or any other local body and the contractor shall produce necessary completion certificates from such authority after completion of work.
- 13.4 All water tanks, taps, sanitary, water supply and drainage pipes fittings and accessories etc. shall conform to the bylaws and specifications of the Municipal Body/Corporation where CPWD specifications are not available.
- 13.5 The contractor shall engage licensed plumbers for the work and the materials (fixtures/fittings) tested by the local Municipal Body/Corporation wherever required at his own cost. Nothing extra shall be paid/reimbursed for the same.
- 13.6 All sanitary wares and fittings shall conform to IS standards and to be procured from approved makes. The contractor shall submit samples of all fittings and fixtures proposed to be used to the Engineer-in-charge for his approval. The approved samples shall remain with the Engineer-in-charge till the completion of the work.
- 13.7 P or S and floor traps (long arm upto 90 cm length or more) in WCs shall be of deep seal type of RIF make or equivalent and shall have a minimum water seal of 75 mm. Floor traps (long arm upto 90 cm length or more) shall have a minimum water seal of 50 mm.
- 13.8 The pig lead to be used in jointing 100 mm, 75mm, 50 mm SCI pipe joints shall not be less than 0.98 kg, 0.88 kg and 0.77 kg per joint respectively. A variation of 5% is allowed on higher side. However, in case of variation on lower side, the quantity of pig lead less used shall be recovered from the contractor at market rate to be determined by the Engineer-in-Charge whose decision in the matter shall be final.
- 13.9 All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interior finish as per architectural requirements. Wherever necessary the fittings centered to dimensions and pattern desired.
- 13.10 The rates shall include the cost of cutting chases, holes in walls, floors, RCC slabs etc. Wherever required and making good the same for which nothing extra shall be paid. The work in general shall be carried out as per CPWD specifications.
- 13.11 The piping stack shall be installed at least 50mm using MS brackets, away from the finished / plastered shaft wall. The Item of Brackets and Clamps shall be paid for

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separately. From floor traps to outside CI fittings only single piece connection pipe shall be used.

- 13.12 All vertical Sanitary & water supply pipes shall be fixed to pre primed and pre painted M.S supporting frame with “U” shaped G.I bolts, threaded at both ends, as specified, with GI nuts, GI washers, GI cleats etc. as approved by the Engineer-in-charge. Supporting frame shall be fixed with approved anchor fasteners / plumbing nails as directed by the Engineer-in-charge. In all cases, pipelines shall be fixed, minimum 50 mm away from the finished wall face and shall not be fixed directly to the walls. The cost of providing and fixing GI supporting frame, “U” bolts, GI nuts, GI washer, anchor fastener etc., for clamping the pipes to the supporting frame shall be paid for separately under relevant item.
- 13.13 Rate includes all materials, labour and all the operations mentioned in the respective items unless and otherwise specifically mentioned.
- 13.14 The SCI pipe wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall paid for on this account.
- 13.15 All the works shall be completely concealed either within shafts or chases or in fills and dropped ceilings, unless specifically shown in drawings or required otherwise.
- 13.16 All the works shall be adequate protected against corrosion, so that the whole work is free from damage throughout.
- 13.17 The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.
- 13.18 The contractor shall be responsible for all the protection of sanitary, water supply fittings and fixtures against pilferage and breakage during the period of installation until the completion / handing over of the work.
- 13.19 The CP fittings such as pillar cock, angle valve, bib cock, mixers etc. shall all be quarter turn type. All such CP fittings fixed on the wall such as angle valve, bib cock, mixers shall be provided with flanges. Nothing extra shall be paid on these accounts even if it specifically not mentioned in the schedule of quantities for the work.
- 13.20 The CP fittings and sanitary fixtures to be installed the Building shall be of approved makes of superior series as mentioned in approved make list.
- 13.21 Before the work is handed over, the contractor shall clean all fixtures removing all plaster, stickers, rust stains and other foreign matter, leaving every part in acceptable condition and ready for use to the satisfaction of the Engineer-in-charge.
- 13.22 The contractor shall submit completion plans for water supply internal sanitary installations and building drainage work within thirty days of the date of completion. These plans are to be submitted on drawings prepared preferably through computers (1

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original copy + 3 photocopies) on suitable scales to show the general arrangement and desired details.

- 13.23 Contractor shall Provide 10 year Warrantee certificate and Manufacturer's Test Certificate including copy of invoice of each item of CP fittings.

13.24 **INSPECTION AND TESTING**

Inspection and testing of water supply sewerage and drainage installations shall be carried out as per National Building Code 2016 with up to date amendments.

14.0 **PRECAST CEMENT CONCRETE BLOCKS**

Machine moulded precast cement concrete blocks of mix 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate of nominal size 20mm) shall conform to CPWD Specification volume-I 2019 with upto date correction slips as applicable to cement concrete work (chapter-IV). These precast cement concrete solid blocks shall be manufactured & tested as per IS 2185 (Part-1): 2005. The 28 days compressive strength of these solid concrete blocks shall be 10 N/mm<sup>2</sup>. All other parameters including physical requirements thereof except compressive strength as aforesaid shall conform to IS 2185 (Part-1): 2005.

15.0 **STEEL WORK**

- 15.1 All steel work shall be carried out as per CPWD Specifications. (Volume 1) 2019 with up-to-date correction slips.
- 15.2 Factory made glazed Steel Doors, Windows & Ventilators shall be manufactured in a workshop approved by the Engineer-in-charge.
- 15.3 Contractor shall submit the shop drawings for the trusses catwalk and all other structural steel frames for the approval of Engineer-in-charge as laid down in the Additional Condition of the contract.
- 15.4 All welded structural steel work shall be tested for quality of weld as laid down in IS:822-1970 before actual erection if required.
- 15.5 Contractor shall have to get the drawings of catwalk and strengthening details of existing truss, if required prepared from approved structural consultant. The same shall also be got proof checked from the institution of National repute like IITs and NITs.
- 15.6 Steel work, if requires, cranes, hydra etc., for lifting of trusses, catwalks, girders etc, nothing extra shall be paid on this account. Scaffolding provided for carryout the steel work at any level is deemed to be included item itself.
- 15.7 Nothing extra shall be paid for steel work up to height work 20 mtr.

16.0 **SPECIALISED ITEMS**

- 16.1 List of Specialized Items has been provided in Annexure-6 of Standard Operating Procedure for CPWD Works Manual 2019.

16.2 **PROCEDURE FOR EXECUTION OF THE SPECIALIZED ITEMS:**

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

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

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

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

#### 16.3 ELIGIBILITY CONDITIONS FOR APPROVAL OF SPECIALIZED AGENCIES:

The Contractor(s) shall submit his proposal for the approval of the Engineer-in-Charge, the names of specialized agencies of repute along with their technical capability /experience proposed to be engaged by him. The agency must be currently actively engaged in execution of the said specialized item and must have who have satisfactorily executed similar work during last 5 (Five) years as below:

(i) Three works each of value not less than 40% of corresponding cost of the specialized item

**or**

(ii) Two works each of value not less than 60% of corresponding cost of the specialized item

**or**

(iii) One work of value not less than 80% of corresponding cost of the specialized item

For calculation purpose only, cost of the specialized item as per accepted tendered value of the all the items corresponding to the specialized item under consideration.

#### 17.0 LIST OF APPROVED MAKES OF MATERIALS

Approved makes of materials to be used in the work are as given in the table enclosed. In case of non-availability of these makes, the Engineer-in-charge may allow use of alternative makes. Only BIS marked materials shall be used in the work. Non-BIS marked materials may be permitted by the Engineer-in-charge only when BIS marked materials are not manufactured.

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**LIST OF MACHINERY, TOOLS & PLANTS TO BE DEPLOYED BY THE CONTRACTOR AT SITE AS & WHEN REQUIRED**

Sl. No.	Name of Equipment	Numbers
1	Excavators (various sizes)	01 No.
	<b>Equipment for hoisting &amp; lifting</b>	
1	Tower Crane or Builder's hoist (Desirable)	01
2	Winch	01
	<b>Equipment for Concrete work</b>	
1	Semi-Automatic batching plant of capacity no less than 10-Cum/Hrs.	1 No.
2	Concrete pump	1 No.
3	Concrete transit mixer (Desirable)	1 No.
4	Concrete mixer (diesel)/ (electrical)	1 No.
5	Needle vibrator (electrical)	2 Nos.
6	Needle vibrator (petrol)	2 Nos.
7	Surface vibrator	2 Nos.
	<b>Equipment for Building work</b>	
1	Bar bending Machine	1 No.
2	Bar cutting machine	1 No.
3	Drilling machine	Nil
4	Welding machine i/c transformer	1 No.
5	Cube testing machines (Automatic type with Electronic Display)	1 No.
6	M.S. pipes	} 1000 sqm
7	Steel shuttering	
8	Steel scaffolding	
9	Grinding/polishing machines	1 No.
	<b>Equipment for transportation</b>	
1	Tippers/Tractor tipper	1 No.
2	Trucks	Nil
	<b>Pneumatic equipment</b>	
1	Air compressors (diesel)	1 No.
	<b>Dewatering equipment</b>	
1	Pump (diesel)	1 No.
2	Pump (electric) (Desirable)	1 No.
	<b>Power equipment</b>	
1	Diesel generator	1 No.
2	Plate compactor	1 No.

- Note:**
- The above list is only indicative and not exhaustive. The Bidder may be required to deploy more T&P as per requirement of work.
  - All the above plants & equipments are to be deployed as and when required or directed by Engineer-in-Charge

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**LIST OF PREFERRED MAKES FOR CIVIL WORKS**

Sl.No.	Material description	Approved Manufacturer / Brand Name
1	(i) Ordinary Portland Cement/ Portland Pozzolona Cement	ACC, Ultratech, Ambuja Cement, J.K. Cement, Century Cement, Shree Cement
	(ii) White Cement	Birla White, J.K. White
2	Reinforcement Steel	SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd and JSW Steel Ltd
3	Admixtures, Plasticizer, Super Plasticizer, Curing Compounds	Fosroc, ROFF/Dr. Fixit (Pidilite Industries), CICO, Sika, BASF, Ardex Endura (Bal Endura), Markchem.
4	Integral Water Proofing compound with cement (For Plaster & Mortar)	Fosroc : Conplast 421 Dr. Fixit : LW+ Sika : Sikacin Asian Paints : Smart care vitalia & equivalent product of BASF, CICO, Ardex Endura, Markchem.
5	Water proofing for bathroom/toilet/ balcony & other wet areas	Fosroc : Brush Bond Dr. Fixit : Pidifine 2K Sika : Nito Bond Asian Paints : Damp Block 2K & equivalent product of BASF, CICO, Ardex Endura, .
6	Crystalline water proofing compound	Fosroc : Fosroc Crystalline Dr.Fixit : Dr. Fixit Crystalline Sika : Sika Crystalline Asian Paints: Crystalline Quarty & equivalent product of BASF, CICO, Ardex Endura
7	Grouts, Tile Adhesive	Latecrete, Kerokoal, BASF, Ardex Endura, Ferrous Crete, Markchem.
8	Structural Steel	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd. (RINL), JSW Steel Ltd. and Jindal Steel & Power Ltd, APLAppolo
9	PUR Sandwich insulated Panel	Kingspan, Metecno India
10	Polycarbonate sheet	GE Plastic, LEXAN, DPI Daylighting
11	Profile steel sheet (Precoated)	Ezydeck, TATA, JSW Steel Ltd., Jindal Steel & Power Ltd, Super deck of Lloyd
12	Particle Board	Kitply, Action TESA, Greenlam, Merino.
13	WPC (Wood Polymer Composite) board, Frame Shutter	ALSTONE, GREEN PLY, RAJSHRI
14	Laminated Particle Board/Laminates	Kitply, Action TESA, Greenlam, Century Ply, Merino
15	Flush door shutters	Duro, Merino, Century, Durian, Green Ply, Jain Wood Industries. (Jayna) (Only ISI marked flush doors shutters to be used.)
16	Fire Rated Doors	Signum Fire Protection, Shakti Hormann, NAVAIR, Suniti construction, Promat International, Bhawani Fire, TATA Pravesh
17	False Ceiling suspension Grid	Armstrong, Hunter Douglas, Bollard, USG Boral, Saint Gobain, Aerolite, Dexune, Diamond Ceiling.
18	False Ceiling tiles/GRG tiles	Armstrong, Hunter Douglas, Bollard, USG Boral, Saint Gobain, Aerolite, Diamond Ceiling.

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19	Plywood/Veneer	Green Ply, Century, Merino, Kitply, Jayna, Duro, Durian.
20	Melamine Polish	Asian Paints Melamine Gold, Wudfin of Pidilite, Timbertone of ICI Dulux.
21	Floor Spring & Door Closure	Godrej, Dorma, Hafele, Geze, DORSET, KICH
22	Aluminium Section	Hindalco, Jindal, Indian Aluminium Co.
23	Anodised Aluminium Hardware (Heavy Duty)	Kilong, Alualpha, Classic, Ebco
24	Aluminium sliding door roller etc.	TPI, Classic or equivalent
25	Clear/Float/Frosted/Reflective/ Coated Glass	Saint Gobain, AIS, Modiguard, Sisecam Flat Glass
26	Stainless Steel Railing, Accessories etc.	JINDAL, Dorma, Giesse, Godrej, Hardwyn, KICH
27	S.S. Door & Window & Fittings	Jindal, Dorma, Dorset, Godrej, Ozone, KICH, ARCH
28	Silicon based water repellent/Weather sealant	G.E. Plastics, Dow Corning, (Wacker), BASF, Pidilite (Dr. Fixit/Roff)
29	Poly-Sulphide Sealant	Fosroc, Pidilite (Dr. Fixit/Roff), Sika, BASF
30	Mosaic tiles/Chequered Tiles	Ultra Tiles, NITCO, Kajaria, Johnson
31	Ceramic Tiles (Antiskid/Matte/Glazed)	Kajaria, RAK, AGL, Orient Bell, Somany, NITCO, Johnson
32	Vitrified Tiles (Antiskid/Matt/Glazed)	Kajaria, RAK, AGL, Orient Bell, Somany, NITCO, Johnson
33	Paver Block & Kerb Stone	Pavcon Hyper Tiles/Dynamic Industries, Dala Tiles, Mayur, KK, Power, Sharda, Navya, Any other ISI marked with the approval of engineer in charge.
34	Dash/Anchoring Fasteners	HILTI, Fischer, Bosch, Wurth
35	Cement Based Wall Putty	Birla wall care, JK White, Berger, Asian Paints
36	Oil Bound Washable Distemper/Dry Distemper	Asian Paints (Professional Acrylic Distemper), Nerolac : Beauty Acrylic Distemper Berger : Bison Acrylic Distemper Dulux ICI : Maxilite
37	1 <sup>st</sup> Quality Acrylic Distemper (washable/Ready Mix/Low VOC)	Asian Paints (Tractor Aqua Lock Paint) Berger : Commando or equivalent paints
38	Acrylic Emulsion Paint	Asian Paints (Apolite Heavy Duty Premium Emulsion Paint), Nerolac (Impression), Berger (Easy Clean), ICI- Dulux:3 in 1.
39	Premium Acrylic Emulsion Paints (Interior)	Asian Paints (Royale Luxury Emulsion of ICTDulux or Nerolac : Impression Berger : Silk ICI Dulux : Velvet touch
40	Textured Exterior Paint Ultratech Paint, Luxture	Asian Paints, Nerolac, Berger Paints, ICI Dulux (Tex-matt)
41	Premium Acrylic Smooth Exterior Paint with silicon additive	Asian Paints : (Apex Ultima) Nerolac : XL Total Berger : Long Life Dulux : Ultra Clean
42	Synthetic Enamel Paint	Asian (Apolite Premium gloss enamel), Nerolac : Synthetic Hi gloss Berger : Luxol Hi gloss ICI-Dulux : Gloss Synthetic enamel
43	Cement Primer	Nerolac, Berger, BP White (Berger), Decoprime WT (Asian), White Primer (ICI)

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44	Steel Primer (Red Oxide Zinc Chromate Primer)	Asian Paints, Nerolac, Berger, ICI
45	Wood Primer	Asian Paints (Wood Primer- White/Pink), Berger ICI, Nerolac.
46	Epoxy Paint	Asian Nerolac, Berger, ICI, Kansai Akzo Nobel
47	Fire Paint	Asian Paint, Akzo Nobel Coatings India Ltd. PROMAT, Jotun, Berger Paint
48	G.I./M.S. Pipe	Tata, Jindal (Hisar), PRAKASH SURYA.
49	G.I. Fittings	Unik, AVAk, Zoloto, Leader
50	HDPE Pipes	Reliance, Jain Pipes, ORIPLAST, Supreme
51	DI Pipes	Electosteel, JSAW-JAL (JINDAL), Tata Ductura
52	DI Fittings	Electosteel, Jindal, Tata Ductura.
53	uPVC pipe and fittings	Astral, Supreme, Ashirwad, Prince, Finolex
54	Centrifugally Cast (spun) Iron pipes & fittings	NECO, Kapilansh, SKF, RPMF.BIC
55	Hubless Centrifugally Cast (spun) Iron Pipes & Fittings	NECO,SKF, Kapilansh
56	C.I. Manhole covers, frames & GI Gratings	NECO, BIC, Kapilansh, SKF, RAJ Iron Foundary Agra.
57	SFRC/RCC Manhole covers & gratings	KK, JAIN, PARGATI, NTC
58	CP Brass Fittings (Superior Range)	Jaquar, Grohe, Roca, Kohler
59	CP Brass Fittings ( Normal Range)	Hindware, Jaquar (ESSCO Series), Parryware, PRIMA (ISI marked), CERA, Plumber,Johnson, KINGSTON, PRAYAG POLYMERS PVT. LTD. (Series 7000 & 6000), PLATO, KEROVIT
60	Sanitary ware, Fittings & accessories ( Superior Range)	Kohler, Roca, Hindware, Jaquar
61	Sanitary ware, Fittings & accessories (Normal Range)	Hindware, CERA, Parryware, Jaquar, Johnson, PRIMA PRAYAG POLYMERS PVT. LTD, Somany, GLOCERA, RAK Ceramics, KEROVIT
62	Mirror Glass	Atul, Modi Guard, Golden Fish, Sisecam
63	CPVC Pipe & fitting	Astral, Supreme, Prince, Ashirwad, PRAYAG POLYMERS PVT. LTD
64	Stainless Steel Sink	Neelkanth, Nirali, Jayna, Johnson, PRAYAG POLYMERS PVT. LTD
65	RCC Pipes(NP-2)	Lakshmi, Sood&Sood, Jain Pipe Co. (Newai), Mahaveer Enterprises (Newai), as per approved by engineer in charge.
66	Extruded Polystrene Insulation Board	Dowcorning, Supreme, Texas, Analco
67	Heat Resistant Tiles	Swastik, Thermatek, Dalal Tiles
68	Gypsum Plaster	Ferrous Crete, Gyproc Saint Gobain, Ultratech, JK White
69	Floor hardener	Ironite, Ferrok, Hardonate, Saint Gobin-Weber,
70	Modular Expansion Joint	Herculus, Sanfield India Ltd. Vexcolt, MNR, CS
71	Glass Wool	Dow Corning, U.P. Twiga, Isover
72	UPVC Doors & Windows (PROFILE makers & their authorized Fabcicators	Fenesta, VEKA, KOMERLING, RHEAU, Aluplast, Wintech, Duroplast, ENCRAFT, DNV

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73	Hardware for uPVC Windows	Rotto, Dorset, Kinlong, Fenesta, DNV
74	AAC Blocks	Ultratech, HIL, BILTECH and As Approved by E-I-C.
75	AAC Block Adhesive	UltraTech, ArdexEndura, Ferrous Crete, Saint Gobin-Weber,
76	PVC Shutter	Rajshri, Sintex, M/s Jain Wood Industries
77	Fire door Accessories	Yale, AssaAbloy, Ozone, Dorma, Becker Fire Solution, Shakti Hormann
78	Block Board	Jayna, Orion Doors(Modern Wudtech Industries), Archidply, Saburi , ARCHIDPLY, Black Cobra, Green Panel
79	FRP Doors/Panelled & Wiremesh doors	Jayna, Jain Doors Pvt. Ltd., Bhatt FRP
80	Aluminium Composite Panel	Alstone, VIRGO, EUROBOUND, ALUTUFF, VIVA, REYNOARCH, Timex, ALEX, ALUTECH.
81	Aluminium High Pressure Composite Panel	VIRGO, ALUTUFF, VIVA, Timex.
82	Epoxy Grouting compound	Saint Gobin-Weber, Markchem, Home Pride
83	High Pressure Laminate	Virgo, Marino, Century ply, Greenlam
84	M.S. tubular windows Press steel door frames	Jangid Engineering, AGFUV, SEN HARVIC, NAVAIR Delhi, SUKRITI Delhi, Chandni industries
85	High Density Polyethylene Pipes for Potable Water Supplies	Universal Polymers Pvt. Ltd, APL APOLLO
86	Wall paneling	KNAUF (Armstrong), Anutone, Bollard, Saint Gobain, Arolite
87	MS Tubular Windows Fabrication	As approved by Engineer-in-Charge
88	Pressed steel door frame	Bhawani fire Ghaziabad (UP) any other manufacturer as approved by Engineer-in-Charge
89	Cement bonded wood particle board	Bison (NCL), Birla aerocon
90	Telescopic slides, soft hinges	Godrej, Ebco, Hettick
91	SS 304 Grade Kitchen Baskets	Godrej, Ebco, Hettick
92	PVC water tank	ISI Market tanks of sintex, Supreme, Prayag, Astral.
93	Carpet	Armstrong (carus) , Forbo/ Bentley /Floor master

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**CONTRACT FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF  
WATER PROOFING WORKS**

(BASEMENT/LOWER GROUND FLOOR/UNDER GROUND TANK/ROOF)

The Agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two thousand  
and \_\_\_\_\_ between  
\_\_\_\_\_ son of  
\_\_\_\_\_ (hereinafter called the Guarantor of the one part)  
and the PRESIDENT OF INDIA (hereinafter called the Government of the other part).

WHEREAS THIS agreement is supplementary to a contract (hereinafter called the contract) dated \_\_\_\_\_ and made between the GUARANTOR OF THE ONE part and the Government of the other part, whereby the contractor, inter alia, undertook to render the buildings and structures in the contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for 10 (Ten) years from the date after the maintenance period prescribed in the contract.

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

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

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

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

C= }  
I= } Nil  
O= }

AE(P)(C)

EE(C)

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

IN WITNESS WHEREOF these presents have been executed by the Obliger \_\_\_\_\_ and by \_\_\_\_\_ and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written SIGNED, SEALED AND delivered by OBLIGOR in the presence of :

- 1. ....
- 2. ....

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

- 1. ....
- 2. ....

C= I= O=	}	Nil		AE(P)(C)		EE(C)
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**TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF ALUMINIUM DOORS, WINDOWS VENTILATORS, STRUCTURAL GLAZING & ALUMINIUM COMPOSITE PANEL WORKS**

The agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and \_\_\_\_\_ between \_\_\_\_\_ son of \_\_\_\_\_ (hereinafter called the GURANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part.)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated \_\_\_\_\_ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor inter alia, undertook to render the work in the said contract recited structurally stable, leak proof and sound material, workmanship, anodizing, colouring, sealing.

AND WHEREAS THE GURANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, defective anodizing, colouring, sealing and finishing for 2 (Two) years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

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

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

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

That if the guarantor fails to make good all the defects or commits breach thereunder, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this

C=	}	Nil	AE(P)(C)	EE(C)
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O=				

supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

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

1. \_\_\_\_\_
2. \_\_\_\_\_

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY

\_\_\_\_\_ in the presence of :

1. \_\_\_\_\_
2. \_\_\_\_\_

C= }  
I= } Nil  
O= }

AE(P)(C)

EE(C)

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

The agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and \_\_\_\_\_ between \_\_\_\_\_ son of \_\_\_\_\_ (hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part.)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated \_\_\_\_\_ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor inter alia, undertook to render the work in the said contract recited structurally stable workmanship, finishing and use of sound materials.

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

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable after expiry of maintenance period prescribed in the contract for the minimum life of 02 (Two) year to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

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

During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk. The decision of the Engineer-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all the defects commits breach thereunder, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this

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supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

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

1. \_\_\_\_\_
2. \_\_\_\_\_

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY

\_\_\_\_\_ in the presence of :

1. \_\_\_\_\_
2. \_\_\_\_\_

C= }  
I= } Nil  
O= }

AE(P)(C)

EE(C)

**TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF STONE WORKS**

The agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and \_\_\_\_\_ between \_\_\_\_\_ son of \_\_\_\_\_ (hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part.)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated \_\_\_\_\_ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor inter alia, undertook to render the work in the said contract recited structurally stable workmanship, finishing and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable and guaranteed against faulty workmanship, finishing and unsound materials and other related problems.

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

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

During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's risk and cost. The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all the defects, commits breach thereunder, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost

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incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

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

1. \_\_\_\_\_
2. \_\_\_\_\_

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY

\_\_\_\_\_ in the presence of :

1. \_\_\_\_\_
2. \_\_\_\_\_

C= }  
 I= } Nil  
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AE(P)(C)

EE(C)

**(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**

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

**OR\*\***

Whereas the Executive Engineer .....(name of division) CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number .....with .....(name and address of the contractor)..... (hereinafter called "the Contractor") for execution of work..... (name of work) ..... The Government has further agreed to accept 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 here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. .... (Rupees .....only)
4. We, ..... (indicate the name of the Bank) ..... , further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.
5. We, ..... (indicate the name of the Bank) .....further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or

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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 any 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.....<br>Name and address | Authorized signatory<br>Name<br>Designation<br>Staff code no.<br>Bank seal |
| 2. | Signature.....<br>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.

C= I= O=	}	Nil	AE(P)(C)	EE(C)
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**FROM OF APPLICATION BY THE CONTRACTOR FOR SEEKING  
RESCHEDULING OF MILESTONES**

**[Refer Clause 5.3]**

1. Name of contractor
2. Name of work as given in the agreement
3. Agreement no.
4. Estimated amount put tender
5. Date of commencement of work as per agreement
6. Period allowed for completion of work as per agreement
7. Date of completion stipulation in agreement
8. Rescheduling of milestones done previously

Milestone No. Already Rescheduled	EE's Letter No. and Date	Rescheduling Of Milestones Done	
		Original Date	Rescheduled Dete
(A) 1 <sup>st</sup> Milestone			
(B) 2 <sup>nd</sup> Milestone			

**Rescheduling of Milestone applied for**

Milestone No. For Which Rescheduling is Applied	Original/Rescheduled Date	Details And Period of Hindrances	Comments of Executive Engineer	Proposed Rescheduled Date of
(A) 1 <sup>st</sup> Milestone				
(B) 2 <sup>nd</sup> Milestone				

Submitted to the Sub-Divisional Officer

Signature of Contactor

Dated

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AE(P)(C)

EE(C)