



भारत सरकार

**Government of India**

केन्द्रीय लोक निर्माण विभाग

**Central Public Works Department  
Notice Inviting Tender**

FOR

**Name of Work:** Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.

**Estimated Cost: -** Rs. 68,80,364/-



Executive Engineer,  
Ghaziabad Division - II,  
CGO - I, CPWD, Ghaziabad

Phone: 0120-2985775, Email: [gzb-eeepd@cpwd.gov.in](mailto:gzb-eeepd@cpwd.gov.in)

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**Name of Work: - Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.**

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**Executive Engineer,  
Ghaziabad Division - II,  
CGO - I, CPWD, Ghaziabad**  
Phone: 0120-2985775, Email: [gzb-eeepd@cpwd.gov.in](mailto:gzb-eeepd@cpwd.gov.in)

|                               |
|-------------------------------|
| <b>NOTICE INVITING TENDER</b> |
|-------------------------------|

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>N.I.T. No.</b>            | <b>32/EE/GD-II/2026-27</b>                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Name of work</b>          | <b>Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.</b>                                                                                                                                                                                                          |
| <b>Estimated Cost</b>        | <b>Rs. 68,80,364/-</b>                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Earnest Money</b>         | <b>Rs. 1,37,607 /- (in favour of Executive Engineer, Ghaziabad Central Division, CPWD, AF Station, Hindon, Ghaziabad)</b>                                                                                                                                                                                                                                                                                                |
| <b>Performance Guarantee</b> | <b>(a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher).</b><br><b>(b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.</b> |
| <b>Security Deposit</b>      | <b>2.5% of tendered value</b>                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Time Allowed</b>          | <b>04 (Four) Moths</b>                                                                                                                                                                                                                                                                                                                                                                                                   |

**This NIT for the above work amounting to Rs. 68,80,364/- (Rs. Sixty-Eight Lakh Eighty Thousand Three Hundred Sixty-Four only) is hereby put up for approval.**

Assistant Engineer (P)  
Ghaziabad Division II,  
CPWD, Ghaziabad

Executive Engineer  
Ghaziabad Division II,  
CPWD, Ghaziabad

**PRESS NOTICE****CENTRAL PUBLIC WORKS DEPARTMENT****NOTICE INVITING e-Bid**

The **Executive Engineer(C), Ghaziabad Division - II, CPWD, CGO - I, Ghaziabad** invites on behalf of President of India online percentage rate bids from approved and eligible CPWD enlisted contractors of appropriate class for following work:

**NIT No :** 32/EE/GD-II/2026-27

**Name of Work:** Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.

**Estimated Cost:** Rs. 68,80,364/-

**Earnest Money:** Rs. 1,37,607 /- (in favour of Executive Engineer, Ghaziabad Central Division, CPWD, AF Station, Hindon, Ghaziabad)

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

**Period of Completion:** 04 (Four) Moths

**Last date & time of online submission of Bids:** 15:00 Hrs. on 16.10.2026

The bid forms and other details can be obtained from the website [www.etender.cpwd.gov.in](http://www.etender.cpwd.gov.in). or [www.eprocure.gov.in](http://www.eprocure.gov.in) . All corrigendum/addendum shall only be available on this website and shall not be published anywhere else.

Executive Engineer,  
Ghaziabad Division - II,  
CPWD, CGO-I, Ghaziabad

## INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING

The **Executive Engineer(C), Ghaziabad Division - II, CPWD, CGO - I, Ghaziabad** on behalf of President of India invites online percentage rate bids from approved and eligible CPWD enlisted contractors of appropriate class for the following work:

|                                                                                                                                                 |                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NIT No.                                                                                                                                         | 32/EE/GD-II/2026-27                                                                                                                                                                                             |
| Name of Work & Location                                                                                                                         | <b>Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.</b> |
| Estimated Cost put to Tender                                                                                                                    | <b>Rs. 68,80,364/-</b>                                                                                                                                                                                          |
| Earnest Money                                                                                                                                   | <b>Rs. 1,37,607 /- in favour of Executive Engineer, Ghaziabad Central Division, CPWD, AF Station, Hindon, Ghaziabad.</b>                                                                                        |
| Stipulated Period of Completion                                                                                                                 | <b>04 (Four) Moths</b>                                                                                                                                                                                          |
| Last Date & Time of Online Submission of Bids, copy of Receipt of deposition of original EMD & Other Documents as specified in the Bid Document | <b>Up to 15:00 Hrs on 16.10.2026</b>                                                                                                                                                                            |
| Date & Time of Opening of Bid                                                                                                                   | <b>At 15:30 Hrs on 16.10.2026</b>                                                                                                                                                                               |

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
2. Information and instructions for bidders posted on website shall form part of bid document.
3. The bid document consisting of plans, specifications, schedule of quantities of various types of items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <https://etender.cpwd.gov.in> or [www.cpwd.gov.in](http://www.cpwd.gov.in) free of cost
4. But the bid can only be submitted after deposition of original EMD either in the office of Executive Engineer inviting bids or Division office of any Executive Engineer, CPWD with in the period of bid submission and uploading the mandatory scanned documents such as Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Banker's Cheque or/and Bank Guarantee (for the balance amount as prescribed) from any of Commercial Banks 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 inviting EE), CPWD and other documents as specified.
5. Those Bidders who are not registered or have not updated their profile on the website mentioned above, are required to get registered / update their profile beforehand. The necessary training materials including the videos with step-to-step process are available on download section of <https://etender.cpwd.gov.in>
6. The intending bidder must have valid Class-III digital signature certificate with encryption key (combo type) to perform any operations/transactions on the e-tendering portal / website and the bidder should download and install the eMsigner on their system as per instruction available on download section of <https://etender.cpwd.gov.in>.
7. On opening date, the Bidder can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of **JPG** format and **PDF** format.

9. Contractor must ensure to quote rate in the prescribed column(s) meant for quoting rate in figures appears in yellow colour and the moment rate is entered, it turns sky blue.

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

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

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

- i. Insurance Surety Bond, Demand Draft/ Account Payee Banker's Cheque / FDR/ Bank Guarantee of any commercial Bank against EMD
- ii. Receipt for deposition of original EMD to division office of any EE, CPWD in prescribed Proforma along with scanned copy of original EMD.
- iii. Enlistment Order of Contractors
- iv. Certificate of ERP training issued through LMS, CPWD.
- v. Copy of PAN card
- vi. GST registration Certificate *as applicable*, if already obtained by the bidder.

**Or**

If the bidder has not obtained GST registration *as applicable*, then he shall scan and upload following undertaking along with other bid documents:

*"If work is awarded to me, I/we shall obtain GST registration certificate, as applicable, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/we shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard"*

**RECEIPT OF DEPOSITION OF ORIGINAL EMD**

|     |                                                                                      |                                                                                                                                                                                                                 |
|-----|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Receipt No                                                                           | :.....**...../ date.....**.....                                                                                                                                                                                 |
| 2.  | Name of work                                                                         | <b>Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.</b> |
| 3.  | NIT No.                                                                              | <b>32/EE/GD-II/2026-27</b>                                                                                                                                                                                      |
| 4.  | Estimated Cost                                                                       | <b>Rs. 68,80,364/-</b>                                                                                                                                                                                          |
| 5.  | Amount of Earnest Money Deposit                                                      | <b>Rs. 1,37,607 /- in favour of Executive Engineer, Ghaziabad Central Division, CPWD, AF Station, Hindon, Ghaziabad.</b>                                                                                        |
| 6.  | Last date of submission of Bid                                                       | <b>: Up to 15:00 Hrs on 16.10.2026</b>                                                                                                                                                                          |
| 7.  | Name of Contractor                                                                   | : .....**.....                                                                                                                                                                                                  |
| 8.  | Form of EMD                                                                          | : .....**.....                                                                                                                                                                                                  |
| 9.  | Amount of Earnest Money Deposited                                                    | : .....**.....                                                                                                                                                                                                  |
| 10. | Date of submission of EMD                                                            | : .....**.....                                                                                                                                                                                                  |
| 11. | Signature, Name and Designation of EMD receiving officer (EE/AAO) with officer stamp | :                                                                                                                                                                                                               |

..\*\*..To be filled by Executive Engineer

# to be filled by EMD receiving EE/AAO as the case may be.

# **PART-A**

# **GENERAL**

## CPWD-6 For e-Tendering

1. **Percentage Rate Bids** are invited on behalf of President of India from approved and eligible CPWD Enlisted Contractors of appropriate class for the work of “**Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.**”

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

In case the last date of submission of bids 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. 68,80,364/-**. This estimate, however, is given merely as a rough guide.

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

2. Agreement shall be drawn with the successful bidders on prescribed Form No. **CPWD 7** (or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website **www.cpwd.gov.in**. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **04 (Four) Moths** from the date of start as defined in schedule ‘F’ or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. (i) **The site for the work is available. The contractor has to get all sample of material / item approved from the Engineer-in-Charge before execution of item.**  
(ii) The Architectural and Structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work and progress of work thereof and no claim of damages for issue of drawings in phased manner shall be admissible.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website **https://etender.cpwd.gov.in or www.cpwd.gov.in** free of cost.
6. After submission of the bid, the contractor can re-submit revised bid any number of times or withdraw it before last date and time of submission of bid as notified. No post-tender modification is allowed by the tenderers except through negotiations, if required. In case, any tenderer does so, the tender will be rejected and the tenderer will be debarred for future tendering in CPWD for two years by the concerned enlisting authority (in case of CPWD enlisted contractor) and by the concerned CE/SE (in case of non-enlisted contractor).

7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
8. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted, then the bid submitted earlier shall become invalid.
9. Earnest Money in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee including e- Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks (drawn in favour of **Executive Engineer, Ghaziabad Central division, CPWD, Air Force Station, Hindon. Ghaziabad**) shall be scanned and uploaded on the e-Tendering website within the period of bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lac, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee including e- Bank Guarantee of any Commercial bank having validity for a period of 90 days for single bid works and 180 days for two bid system or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

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

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

The bid submitted shall be opened at **15:30 Hrs. on 16.10.2026**

10. The bid submitted shall become invalid and e-tender processing fee shall not be refunded if:
  - (i) The bidder is found ineligible.
  - (ii) The bidder does not upload scanned copy of all the documents stipulated in the bid document.
  - (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
  - (iv) If a tenderer quotes nil rates against each item-on-item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub-head in percentage rate tender,

the tender shall be treated as invalid and will not be considered as lowest tenderer.

11. The contractor whose bid is accepted will be required to furnish performance guarantee at specified percentage of the tendered amount as mentioned in schedule E and within the period specified in Schedule F. This guarantee shall be in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including 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 within the period specified in Schedule F.

12. The description of the work is as follows:

***The work of “Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.***

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

13. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.
14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
15. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.

16. The 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 Housing and Urban Affairs. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The bids for the work shall remain open for acceptance for a period of 30 (thirty) days from the date of opening of bids in case of single bid system and 75 (seventy-five) days from the date of opening of technical bids in case bids are invited in 2 or 3 bid system. Further
  - (i) If any tenderer withdraws his tender **within 7 days** after last date and time (24 hours basis) of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
  - (ii) If any tenderer withdraws his tender **after expiry of 7 days** after last date and time (24 hours basis) of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
  - (iii) Withdrawal of the tender, by the tenderer, shall only be made through e-tender portal. Any other method i.e. through letter / e-mail etc. shall not be considered. The tender inviting authority gets intimation through SMS and email in this regard.
  - (iv) If contractor fails to furnish the prescribed performance guarantee within the prescribed period, the earnest money is absolutely forfeited to the President automatically without any notice.
  - (v) In case of forfeiture of earnest money as prescribed in para (i), (ii) and (iv) above, the bidders shall not be allowed to participate in the rebidding process of the same work.
19. This notice inviting Bid shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:
  - (a) The Notice Inviting Bid, all the documents including Additional Conditions, Specifications and Drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the Rates quoted online at the time of submission of Bid and Acceptance thereof together with any correspondence leading thereto.

(b) Standard **CPWD Form-7** or other Standard CPWD Form as applicable.

**20. For Composite Bids**

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

~~20.1.2. The Bid document includes following Components:~~

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

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

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

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

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

~~20.1.5. After acceptance of the bid by Competent Authority, the Engineer 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 Engineer in charge of Major Component and has also to sign two or more copies of Agreement depending upon number of EE/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).~~

~~The Engineer in Charge of Major Component will operate Part A and Part B of the Agreement. EE/DDH in charge of minor component(s) shall operate Part C along with Part A of the agreement~~

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

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

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

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

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

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

~~20.1.11. Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer in charge of the discipline of minor component directly to the main contractor. The CMB shall be maintained independently by Engineer in Charge of major and minor components.~~

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

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

~~21. Integrity Pact: The contractor shall download the Integrity Pact, which is a part of tender documents, affix his signature in the presence of a witness, and upload the same while submitting online bids for all works of estimated cost put to tender equal or more than the threshold value given in Schedule F. In the event of his failure to sign and upload the Integrity Pact along with other bid documents, his bid shall be rejected.~~

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

**GOVERNMENT OF INDIA  
CENTRAL PUBLIC WORKS DEPARTMENT**

**PERCENTAGE RATE TENDER & CONTRACT FOR WORKS**

Tender for the work of “**Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27**”

- (i) To be submitted / uploaded up to **15:00 Hrs. on 16.10.2026** on website: **<https://etender.cpwd.gov.in>**
- (ii) To be opened in the presence of bidders who may be present at **15:30 Hrs. on 16.10.2026** in the office of the **Executive Engineer(C), Ghaziabad Division - II, CPWD, CGO - I, Ghaziabad**

**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 in General Rules and Directions and in Clause-11 of the Conditions of Contract and with such materials as provided for, by, and in respect of accordance with, such conditions so far as applicable.

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

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

A copy of Earnest Money deposit 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. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely, the said performance guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in clause 12 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 agency on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money Deposited/Performance Guarantee.

Addition: NIL Correction: NIL

Overwriting: NIL Deletion: NIL

AE(P)

AE(E)P

EE(P)

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**

**Postal Address:**

**Witness:**

**Address:**

**Occupation:**

### **ACCEPTANCE**

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

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

- (a) .....
- (b) .....
- (c) .....

(For & on behalf of President of India)

Dated: .....

Signature.....

Designation.....

## SCHEDULES A TO F

### **SCHEDULE 'A'**

Schedule of quantities for the Work (as per CPWD-3 : Enclosed

### **SCHEDULE 'B'**

Schedule of material to be issued to the Contractor : Nil

### **SCHEDULE 'C'**

Tools and Plants to be hired to the Contractor : Nil

### **SCHEDULE 'D'**

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

### **SCHEDULE 'E'**

**Reference to General Conditions of Contract:** General Conditions of Contract - 2023 (Maintenance Works) as amended with amendments issued up to previous day of the last date of submission of the Tenders.

**Name of Work:** Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.

**Estimated cost of work:** Rs. 68,80,364/-

|       |                       |                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (i)   | Earnest Money         | Rs. 1,37,607 /- (to be returned after receiving Performance Guarantee)                                                                                                                                                                                                                                                                                                                                     |
| (ii)  | Performance Guarantee | (a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher).<br>(b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount. |
| (iii) | Security Deposit      | 2.5% of the accepted tendered value of the work                                                                                                                                                                                                                                                                                                                                                            |

### **SCHEDULE 'F'**

#### **General Rules & Directions:**

Officer inviting Tender: **Executive Engineer(C), Ghaziabad Division - II, CPWD, CGO - I, Ghaziabad**

#### **Definitions:**

|        |                                                                               |                                                                                                                                                        |
|--------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 (vi) | Engineer-in-Charge                                                            | <b>Major Component (Civil Works):</b> Executive Engineer (C), Ghaziabad Division- II, CGO-I, CPWD, <b>or</b> successor thereof                         |
| (viii) | Accepting Authority                                                           | Executive Engineer (C), Ghaziabad Division- II, CGO-I, CPWD <b>or</b> successor thereof                                                                |
| (x)    | Percentage on cost of materials and Labour to cover all overheads and profits | 15%                                                                                                                                                    |
| (x)(a) | Standard Schedule of Rates                                                    | <b>Civil Works:</b> Delhi Schedule of Rates 2023 (Vol. 1 & 2) with amendments issued up to previous day of the last date of submission of the Tenders. |

|       |                              |                                                                                                                                                                                                                                      |
|-------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (xi)  | Department                   | Central Public Works Department (CPWD)                                                                                                                                                                                               |
| 9(ii) | Standard CPWD Contract Form: | General Conditions of Contract-2023 (Maintenance Works) and <b>CPWD Form-7 (Percentage Rate Tender &amp; Contract for Works)</b> as amended with amendments issued up to previous day of the last date of submission of the Tenders. |

**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. | 07 (Seven) days |
| (ii) | Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above                                                                                                                           | 03 (Three) days |

**Clause-2:**

|     |                                                  |                                                           |
|-----|--------------------------------------------------|-----------------------------------------------------------|
| (i) | Authority for fixing compensation under clause 2 | Chief Engineer, Ghaziabad Zone, CPWD or successor thereof |
|-----|--------------------------------------------------|-----------------------------------------------------------|

**Clause-5:**

|      |                                                                                           |                         |
|------|-------------------------------------------------------------------------------------------|-------------------------|
| (i)  | Number of days from the date of issue of letter of acceptance for reckoning date of start | 10 (Ten) days           |
| (ii) | Time allowed for completion of work                                                       | <b>04 (Four) Months</b> |

**TABLE OF MILE STONES**

| Sl. No. | Description of mile stone                                  | Period for completion from date of start in months | Withheld amount for non-achievement of mile stone.    |
|---------|------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------|
| 1.      | Financial Progress of 1/8 <sup>th</sup> of Tendered Amount | 25% of completion                                  | 1.25% of Tendered Value for failure of each Milestone |
| 2.      | Financial Progress of 3/8 <sup>th</sup> of Tendered Amount | 50% of completion                                  |                                                       |
| 3.      | Financial Progress of 3/4 <sup>th</sup> of Tendered Amount | 75% of completion                                  |                                                       |
| 4.      | Financial Progress of Full Tendered Amount                 | Completion Period                                  |                                                       |

|       |                                                                               |                                                                                                |
|-------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| (i)   | Authority to convey the decision of shifting of milestones                    | Executive Engineer, Ghaziabad Division-II, CPWD, CGO-I Complex, Ghaziabad or successor thereof |
| (ii)  | Authority to decide rescheduling of milestones and grant of Extension of time | Chief Engineer, Ghaziabad Zone, CPWD or successor thereof                                      |
| (iii) | Shifting of date of start in case of delay in handing over of site            | Chief Engineer, Ghaziabad Zone, CPWD or successor thereof                                      |

**Schedule of issue of designs: Applicable**

| <b>Part</b> | <b>Portion of Design</b>                       | <b>Description</b> | <b>Time period for handing over reckoned from date of receipt of tenders</b>                                                                                                                                                                                                                     |
|-------------|------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part A      | Portion already included in NIT                | NA                 | <i>The site shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work and progress of work thereof and no claim of damages for issue of drawings in phased manner shall be admissible</i> |
| Part B1     | Portions of Architectural Designs to be issued | NA                 |                                                                                                                                                                                                                                                                                                  |
| Part B2     | Portion of Civil designs to be issued          | NA                 |                                                                                                                                                                                                                                                                                                  |
| Part B2     | Portion of E&M Designs to be issued            | NA                 |                                                                                                                                                                                                                                                                                                  |

**Clause-5.2**

|                               |                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------|
| Nature of Hindrance Register: | Web bases OM no DG/MAN/394 dated 28/01/2020 shall be followed for documentation of Hindrance |
|-------------------------------|----------------------------------------------------------------------------------------------|

**Clause-5.4**

|                                                                                                        |                                 |
|--------------------------------------------------------------------------------------------------------|---------------------------------|
| Schedule of rate of recovery for delay in submission of the modified programme in terms of delay days: | <b>As per recovery schedule</b> |
|--------------------------------------------------------------------------------------------------------|---------------------------------|

**Clause-6**

|                                                                       |            |
|-----------------------------------------------------------------------|------------|
| Computerized Measure Book (CMB)/<br>Electronic Measurement Book (EMB) | <b>EMB</b> |
|-----------------------------------------------------------------------|------------|

**Clause-7:**

|                                                                                                                                                                           |                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment | <b>Rs. 10 Lakh or<br/>As per mutually agreed</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|

**Clause-7A:**

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Whether Clause 7A shall be Applicable | <p style="text-align: center;">Yes</p> <p>(a) No running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whether applicable are submitted by the contractor to the Engineer-in-Charge.</p> <p>(b) The following documents shall also be part of the bill submitted by the contractor (these documents shall be owned by the contractor) before making payment: -</p> <ol style="list-style-type: none"> <li>1. Details of person employed with date of their employment up to previous month.</li> <li>2. Documents of payment made to the employees directly into their bank accounts up to previous month.</li> <li>3. Documents of attendance through biometric attendance or other mode up to previous month.</li> <li>4. Documents of deposition of EPF and ESI deductions in the employee's accounts up to previous month.</li> <li>5. Any penalty imposed on the agency for delay in disbursing payment and deposition of EPF and ESI deductions in the employee's accounts up to previous month.</li> <li>6. Any other document(s) required as per statutory requirements and/or as directed by Engineer-in-Charge.</li> </ol> <p>In case, any of the documents submitted by the contractor is found false/forged at a later date, action for debarment of contractor will be taken by the CE, Ghaziabad CPWD.</p> |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause-8:**

|                                                                 |                                                                      |
|-----------------------------------------------------------------|----------------------------------------------------------------------|
| Competent authority to inspect and issue Completion Certificate | Executive Engineer, Ghaziabad Division-II, CPWD or successor thereof |
|-----------------------------------------------------------------|----------------------------------------------------------------------|

**Clause-8A:**

|                                                                                             |                                                           |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Authority to decide compensation on account if contractor fails to submit completion plans. | Chief Engineer, Ghaziabad Zone, CPWD or successor thereof |
|---------------------------------------------------------------------------------------------|-----------------------------------------------------------|

**Clause-10A:** List of Testing equipment's to be provided by the agency at Site Lab:

Equipment for conducting necessary Site Tests as per requirements of Specifications and quality assurance plan shall be provided and installed at site in the well-furnished Site Laboratory by the contractor at his own cost.

**Clause-10 B (ii)**

|                                            |                       |
|--------------------------------------------|-----------------------|
| Whether Clause 10B(ii) shall be Applicable | <b>Not applicable</b> |
|--------------------------------------------|-----------------------|

**Clause-10 C:****Not Applicable**

|                                                           |            |
|-----------------------------------------------------------|------------|
| Component of Labour Expressed as percent of value of work | <b>Nil</b> |
|-----------------------------------------------------------|------------|

**Clause-10 CA:****Not applicable****Clause-10CC:****Not Applicable**

**Clause-11:**

| <b>Specifications to be followed for execution of work:</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Civil work</b>                                           | CPWD Specification 2019 Volume -I & II with correction slips up to the previous date of the last date of submission of bids.<br>CPWD Green Rating Manual 2021 with correction slips up to the previous date of the last date of submission of bids.<br>CPWD hand book on safety, Health and Environment with correction slips up to the previous date of the last date of submission of bids.<br>CPWD Manual on Accessible Built Environment 2019 with correction slips up to the previous date of the last date of submission of bids. |

**Clause-12:**

|          |                                                                       |          |
|----------|-----------------------------------------------------------------------|----------|
| 12.2 (C) | Deviation Limit beyond which clauses 12.2(C) shall apply for the work | No Limit |
|----------|-----------------------------------------------------------------------|----------|

The completion cost should not exceed 1.50 times of tendered amount.

**Clause-16:**

| <b>Competent Authority for deciding reduced rates:</b>           |
|------------------------------------------------------------------|
| Chief Engineer, Ghaziabad Zone, CPWD <b>or</b> successor thereof |

**Clause-18:**

The Contractor shall deploy T&P, Plant and Equipment required for execution of work within contract period. Schedule of deployment of the equipment shall be as per requirement of work for completion of work as per work program within stipulated time and contractor himself shall be responsible for their efficient use avoiding any idling. **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, not even for delay in work due to justified hinderances.**

**Clause-19:**

|                                                                  |                                                    |
|------------------------------------------------------------------|----------------------------------------------------|
| <b>Clause 19C</b> : Authority to decide penalty for each default | Engineer-in-charge of respective component of work |
| <b>Clause 19D</b> : Authority to decide penalty for each default |                                                    |
| <b>Clause 19G</b> : Authority to decide penalty for each default |                                                    |
| <b>Clause 19K</b> : Authority to decide penalty for each default |                                                    |

**Clause-25:**

|       |                                 |                                                                         |
|-------|---------------------------------|-------------------------------------------------------------------------|
| (i)   | Conciliator                     | Additional Director General (Region Lucknow), CPWD or Successor thereof |
| (ii)  | Arbitrator Appointing Authority | Chief Engineer, Ghaziabad Zone, CPWD <b>or</b> successor thereof        |
| (iii) | Place of Arbitration            | Ghaziabad                                                               |

**Clause-32: Requirement of Technical Representative(s) and Recovery Rates:**

| Tendered 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 Component) |                            |                                                            |                                                                                                                   |
| More than 15 lac 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 per person                                                                                 |

**Note:** 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 company can be treated at par with Graduate Engineers for the purpose of such deployment subject to that such diploma holders should not exceed 50% of requirement of degree Engineers.

**Clause-38:**

|        |                                                                                                                                                                                                            |                                                                                          |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| i) (a) | Schedule/statement for determining theoretical quantity of cement & bitumen based on Delhi Schedule of Rates                                                                                               | <b>Delhi Schedule of Rates 2023</b> with Amendments up to the date of submission of bid. |
| ii)    | Variations permissible on theoretical quantities:                                                                                                                                                          |                                                                                          |
| (a)    | Cement: <ul style="list-style-type: none"> <li>For works with estimated cost put to tender not more than Rs.25 Lakh.</li> <li>For works with estimated cost put to tender more than Rs.25 Lakh.</li> </ul> | 3% Plus/Minus<br><br>2% Plus/Minus                                                       |
| (b)    | Bitumen for all works.                                                                                                                                                                                     | 2.5% Plus only and nil on minus side.                                                    |
| (c)    | Steel reinforcement and structural steel sections for each diameter, section and category.                                                                                                                 | 2% Plus/minus                                                                            |
| (d)    | All other materials                                                                                                                                                                                        | Nil                                                                                      |

**Schedule of Recovery**

| S.N. | Descriptions                                                                       | Recovery Rate     |
|------|------------------------------------------------------------------------------------|-------------------|
| 1.   | Recovery for delay in submission of the modified programme in terms of delay days. | ₹ 1,000/- per day |

**Or any other Recovery mentioned in NIT**

## **Associate Agency for Specialized/Civil/Horticulture/ E&M Works**

### **1. Procedure for association of agency for specialized Civil/Horticulture/E&M work.**

- 1.1 The tenderer(s) shall be eligible to carry out any or all of such specialized works without associating any specialized agency provided he fulfils the prescribed eligibility criteria.
- 1.2 These works should be got executed through associated/specialized agencies engaged in execution of specialized work and fulfil eligibility criteria prescribed in the tender document.
- 1.3 The Contractor(s) shall submit his proposal for the approval to the Engineer-in-Charge, the names of associated agency for specialized work along with their technical capability /experience proposed to be engaged by him. The proposal shall be submitted as early as possible but not later than one month before proposed date of start of execution of such work as per approved execution programme.
- 1.4 It shall be the responsibility of main contractor to sort out any dispute / litigation with the associated agencies for Specialized work 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 associated agencies for Specialized work. 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.

### **2. ELIGIBILITY CONDITIONS FOR SPECIALIZED CIVIL/HORTICULTURE/E&M WORKS:**

- 2.1 When the tenderer himself does not fulfil the eligibility criterion for specialized works, the tenderer(s) shall associate eligible agencies to execute the specialized works, who fulfil the prescribed eligibility criteria as below:

The agency must be engaged in execution of the said specialized work and must have satisfactorily executed **similar works** during last 7 (seven) years from the date of submission of proposals for approval of associate specialized agency as below:

- Three works each of value not less than 40% of corresponding estimated cost of the specialized items of the work in the NIT.

**Or**

- Two works each of value not less than 60% of corresponding estimated cost of the specialized items of the work in the NIT.

**Or**

- One work of value not less than 80% of corresponding estimated cost of the specialized items of the work in the NIT.

- 2.2 The Associate agency for E&M works must have valid electrical license
- 2.3 The Contractor(s) shall submit his proposal for the approval of the Engineer-in-Charge, the names of associate agencies of repute along with verifiable completion certificates of similar work experience, valid Electrical Contractor's license, self-attested GST registration and other documents in respect of the associated agencies, duly attested by both associated agency and the main contractor.
- 2.4 Proposal for associating agency for components of E&M work shall be submitted, as per proforma given in this tender document, from each of proposed associate independently for all E&M component in prescribed Proforma given herein.

2.5 Contractor has to engage specialized agencies for following Civil works:

- i. All water proofing work.
- ii. System Structural Glazing / Aluminium System doors and windows
- iii. Internal & External water supply & Internal & External sanitary.

2.6 **Additional Security Deposit:** Additional security of work done and paid for water proofing subhead (all items), Aluminium work/ UPVC work, structural glazing items and fire doors (all items including glass and fittings) shall be deducted from bills. This additional security can also be deposited in the form of bank guarantee issued by the scheduled bank. Such bank guarantee bond shall be valid for the period **as per Para 2.8 below**. The Performa for the BG shall be as given in the tender document. The 50% of such additional security amount can be released after completion of half of the total guarantee period on satisfactory performance of the item.

2.7 **Guarantee bond:** The contractor shall submit Guarantee bond (Annexure- E,F & G) for various items of work as stipulated in the contract document. Performa for Guarantee bond shall be as given in the tender document.

2.8 **Guarantee Bonds for Various Items:** The contractor shall be duly responsible for guarantee of proper design and performance of the following items for a period as specified from the date of completion of the work:-

|    |                                                                                                            |                                                                                                     |
|----|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 1. | All water proofing work                                                                                    | Five percent of the cost of water proofing work for 10 years shall be retained as security deposit. |
| 4. | Internal & External water supply and Internal & External sanitary installations except sanitary fittings*. | Five percent of the cost of work for 10 years shall be retained as security deposit.                |

The amount so withheld for water proofing work items would be released after **10 (Ten) years and amount withheld of the other item will be released after 05 years**, from the date of completion of the entire work under the agreement, If the performance of the work done is found satisfactory.

If any defect / leakage 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 Contractor at the risk and cost of contractor.

However, the security deposit deducted may be released in full against 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.

**NOTE:** - \*Manufacturer warranty for the above specialized work or any other items shall be submitted to Engineer-in-charge.

3. Contractor has to deploy required Plant and machinery on the project. **Minimum number of plant and machinery to be deployed by the contractor shall be as per site requirement.** In case the contractor fails to deploy the plant and machinery as per requirement of the work or as per the direction of the Engineer-in-charge, the Engineer-in- charge shall be at a liberty to get the same deployed at the risk and cost of the contractor.

**Annexure-A****PROPOSAL FOR ASSOCIATING AGENCY FOR CIVIL WORKS**

I/we hereby propose the following agency for execution of Civil work component mentioned herein.  
Consent Letter from the proposed associated agency is enclosed.

- |                                                                             |   |           |
|-----------------------------------------------------------------------------|---|-----------|
| (i) Name of work                                                            | : | .....     |
| (ii) Component of Civil Work                                                | : | .....     |
| (iii) Name of Associated Agency                                             | : | .....     |
| (iv) Details of Enlistment                                                  | : | .....     |
| (v) Category and Class of Enlistment                                        | : | .....     |
| (vi) Monetary limit of work in Enlistment                                   | : | .....     |
| (vii) Validity of Enlistment                                                | : | .....     |
| (viii) Copy of Enlistment Order attached                                    | : | (Yes /No) |
| (ix) Copy of electrical contractor license attached                         | : | (Yes /No) |
| (x) Copy GST Registration attached                                          | : | (Yes/No)  |
| (xi) Copy PAN Card Attached                                                 | : | (Yes/No)  |
| (xii) Consent Letter of agency attached                                     | : | (Yes/No)  |
| (xiii) Copy of completion certificates of similar work experience attached: | : | (Yes /No) |

**Encls:** Self Attested photocopies of as stated above

Seal & Signature of the Main Contractor

**CONSENT LETTER FROM ASSOCIATE AGENCY FOR CIVIL WORKS**

Name of Work: .....

I / We hereby give my consent to associate with M/s ....., for executing the ..... (mention category) component of **CIVIL** work of the above-mentioned work.

I / We will execute the work as per specifications and conditions of the agreement for the work and as per directions of the Engineer-in-Charge for the said component of **CIVIL** work till the completion of the work.

I / We will be responsible for necessary action to handover the installations and for rectification of defects and repair during the maintenance / warranty period.

I / We will employ full time technically qualified Engineer / supervisor for the said component of **CIVIL** work as required for the work.

I / We will attend inspection of work by officers of the department as and when required.

Dated:

Seal & Signature of Associate **CIVIL** Contractor

(Proforma of MoU for Specialized Works on a 'Non-Judicial' stamp paper worth Rs.100/-)

### **MEMORANDUM OF UNDERSTANDING (MOU)**

Between

M/s .....having his registered office at .....  
 ..... [Henceforth called the **Main Contractor**] which expression shall unless repugnant to  
 the subject or context include its administrators, successors and assigns.

and

M/s .....having his registered office at .....  
 ..... [Henceforth called **Associate Contractor**] which expression shall unless repugnant to  
 the subject or context include its administrators, successors and assigns.

**Whereas**, the Central Public Work Department (CPWD), have awarded Contract to the Main Contractor for the work of :.....” as per Schedule of Quantities, Specifications, Terms and Conditions contained in the Agreement.

**Whereas**, This Memorandum of Understanding has been entered into for assigning responsibility of execution of ..... (mention category) **component of Work** forming part of the above work to the Associate Contractor by the Main Contractor.

**Now therefore**, it is agreed between the Parties here to as follows:

1. Both the parties have gone through and understood the various Terms & Conditions and Clauses of the Contract for the work awarded to the Main Contractor and willingly agree to abide by them.
2. The 'Associate Contractor' will execute ..... (mention category) Component of Associated Work in the wholesome manner as per Terms & Conditions of the Contract. However, both Parties shall be **jointly and severally responsible** for the execution of said Component of work as per the Contract.
3. It is understood that payment for ..... (mention category) component of Associated Work even though executed by the Associate Contractor shall be done by the Department (CPWD) to the Main Contractor as per Terms & Condition of the Contract. The Parties have entered into separate agreement on Terms & Conditions for payment to be made by the Main contractor to the Associate Contractor for the work done by them. The main Contractor shall promptly make payment to the Associate Contractor as per agreed Terms & Condition between them. In the event of failure to make due payments to the Associate Contractor by Main Contractor, the Department (CPWD) may make such payments directly to the Associated Contractor after deducting the same from Bills payable to the Main Contractor.
4. In case of any dispute between Parties, either of them may go for mediation by the Engineer-in-charge. In the event of disagreement with decision of Engineer-in-Charge, either of the Parties may appeal against the mediation to the CE in whose jurisdiction the work falls. His decision shall be final and binding on both Parties.
5. The 'Associate Contractor' shall be liable for disciplinary and penal action(s) as per Contract if he fails to discharge his contractual commitments related to said component of Associated works.
6. I the machinery and equipment, tools and tackles required for execution of ..... (mention category) component of Associated Work, as per the Contract, shall be the responsibility of the 'Associate Contractor'.

7. The Technical and other site staff required for the said ..... (mention category) component of Associated Work shall be arranged by the 'Associate Contractor' as per terms and conditions of the Contract.
8. Site Order Book & other Registers maintained for the said work shall be signed by the Representatives of Main Contractor as well as '*Associate Contractor*' or themselves.
9. All the correspondence regarding execution of the ..... (mention category) component of Associated Work shall be done by the department with the Associate Contractor with a copy to the Main contractor. In case of non-compliance of the provisions of the Contract, the Main Contractor, as well as the Associated Contractor shall be responsible and action under Clauses 2 and 3 may be initiated and taken against the Main Contractor.
10. This MoU between Parties will be treated as an agreement and has legality as per Indian Contract Act (amended up to date) and the Department (CPWD) can enforce all the Terms and Conditions of the Contract for execution of the above work.
11. This MOU shall be valid till the duration of completion of above work and shall be extended if so required by the CPWD.

Date:

Place:

Signature of Main Contractor

Signature of Associate Contractor

1. Witness with address

2. Witness with address

(From Main Contractor side)

(From Associate Contractor side)

# **PART-B**

## **(CIVIL WORK)**

## **General Conditions of Work**

### **SCOPE OF WORK**

1. The work shall be executed in accordance with the layout plan, architectural, structural & landscape drawings and services drawings with the intent to complete and handover the project in satisfactory condition and ready for occupation.
2. The Contractor 's attention is drawn toward present site condition. All the area will be got cleared and handed over, however, there may be some parts of buried foundations, hard surfaces, tree roots, cutting of bushes, old pipe lines etc. which shall be removed by contractor at the time of work. The land is free from encroachment and there is no hindrance to execute the work. The agency shall fix a permanent bench mark at the site of work.
3. The work is to be executed as per bill of quantities, drawings and specifications including particular specifications and other terms & conditions of agreement.
4. CPWD Specifications 2019 Vol-I and Vol-II as amended up to previous day to last date of submission of bid shall be applicable for all the items/ sub-items to be executed as per Good for construction drawings.
5. Those items which are to be executed under the scope of this NIT and for which CPWD specifications are not available, such items shall be executed in compliance with the specifications mentioned separately in this document and/or as per relevant IS codes, International Standards etc. as applicable.
6. Planning, designing wherever required and execution of **internal services** like internal sanitary, water supply, drainage system etc. complete for the buildings planned including all its fittings, fixtures, testing etc. complete is in scope.
7. Execution of all **external services** like water supply, sewerage, drainage system, roads, pathways, HT & LT electrical cable trenches, parking and all connected sub-structures and superstructures within the premises, as per bye-laws and norms of the local bodies including making connections with the peripheral services after getting the services approved from Engineer-in-charge are part of the scope.
8. Landscaping and other development work including other details etc. as conditions of NIT and other details for the horticulture works and execution of same therein.
9. Taking all precautionary measures to safeguard safety measures against any accidents for the agency 's employees, labour, public, and staff of CPWD by providing all necessary safety equipment, helmets etc. at work site.
10. All the drawings shall be made available to contractor from start of work and if there is any clarification required by contractor, the same will be issued as per requirement of work.
11. Detailed planning and execution to complete for Internal Electrification, Fire Alarm System, Fire-fighting system, CCTV, Airconditioning & ventilation, point wiring, Lifts, UPS, DG set etc. with all equipment and external lighting, and any other services all complete as per Bill of quantities, drawings and as per the direction of the Engineer-in-charge and also required for satisfactory completion of project etc. are within the scope of work.
12. Approvals/NOC/permissions etc. shall be obtained by the contractor at his own level for disposal of malba/debris or any other approval related to this work.
13. The above scope of work includes cost of all materials, manpower, workmanship, equipment, T&P fixtures, accessories, royalties, taxes i/c GST watch & ward, incidentals till handing over the complete premises to the department.

### Additional Conditions of Works

#### 1. Order of Preference

Should there be any difference or discrepancy between the description of items as given in the schedule of quantities, particular specifications for individual items of work (including special conditions) and I.S. Codes etc., the order of preference as per para 8.1 of General Conditions of Contract 2023 Maintenance Works shall be followed.

If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.

In case of any difference in the Hindi version and English version in any of the condition of contract, English version shall prevail

2. Unless otherwise provided in the Schedule of Quantities/Specifications, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same.
3. The proposed building is a prestigious project and quality of work is 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 cladding works, flooring, aluminium, glazing & stainless-steel plumbing work and other specialized works will specially require engagement of skilled workers having experience particularly in execution of such items.
  - a) The contractor (s) shall inspect the site of work before tendering and acquaint himself with the site conditions and no claim on this account shall be entertained by the department.
  - b) 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.
4. The tenderer shall see the approaches to the site. In case any approach from main road is required by the contractor, the same shall be made good, improved and maintained by the contractor at his own cost. No payment shall be made on this account.
5. The contractor 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 dangers and incidents caused to existing / new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.
6. The contractor shall make his own arrangement for obtaining electric connection(s) if required and make necessary payments directly to the department concerned.
7. Other agencies doing works related with this project may also simultaneously execute their works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying/burying in the work, pipes cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for the other agencies. Nothing extra over the Agreement rates shall be paid for doing these.
8. Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on account of the same.
9. 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.

10. The Maintenance 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.
11. 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.
12. No huts for labour are to be erected at the site of work, the contractor shall be required to provide such accommodation at a place as is acceptable to the local body and nothing extra shall be paid on this account.
13. In case of items for which abbreviated nomenclature is not available in the aforesaid publication and also in case of extra and substituted items for which abbreviated nomenclature are not provided for in the agreement, full nomenclature of item shall be reproduced in the measurement books and bill forms for running account bills.
14. For the purpose of recording measurements and preparing running account bills, the abbreviated nomenclature indicated in the publications Abbreviated Nomenclature of Items of DSR 2023 shall be accepted. The abbreviated nomenclature shall be taken to cover all the materials and operations as per the complete nomenclature of the relevant items in the agreement and relevant specifications.
15. For the final bill, however, full nomenclature of all the items shall be adopted in preparing abstract in the measurement books and in the bill forms.
16. It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
17. 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.
18. The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand, earth etc. collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.

#### 19. PROGRAMME CHART

- i. The contractor shall submit a Detailed work programme (Time and Progress Chart) for execution of work in stipulated period of completion considering each mile stone within 15 days of date of issue of letter of acceptance. The Engineer-in-charge may within 30 days thereafter, if required modify, and communicate the programme approved to the contractor failing which the programme submitted by the contractor shall be deemed to be approved by the Engineer-in-charge. The work programme shall include all details of balance drawings and decisions required to complete the contract with specific dates by which these details are required by contractor without causing any delay in execution of the work. The chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule —FI.
- ii. The submission for approval by the Engineer-In-Charge of such program or the furnishing of such particulars shall not relieve the contractor of any of his 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.
- iii. The approval by the Engineer-in-charge of such programme shall not relieve the contractor of any of the

obligations under the contract.

- iv. The program chart should include the following: -
    - a) Descriptive note explaining sequence of various activities.
    - b) Work Program prepared on PRIMAVERA/ MS Project Software, which will indicate resources in financial terms, manpower and specialized equipment for every important stage.
    - c) Program for procurement of materials by the contractor.
    - d) Program for arranging and deployment of manpower both skilled and unskilled so as to achieve targeted progress.
    - e) Program of deployment of machinery / equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
    - f) Programme for achieving milestones.
    - g) If at any time, it appears to the Engineer-In-Charge that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.
  - v. The contractor shall submit the Time and Progress Chart and progress report using the mutually agreed software or in other format decided by Engineer-in-charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery as per **recovery schedule** shall be made in **case of delay in submission of the monthly** progress report.
  - vi. The submission for approval by the Engineer-in-charge of such programme or 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.
20. 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 his 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.
  21. If the work is carried out in more than one shift or during night no claim on these accounts shall be entertained.
  22. Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. 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.
  23. The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including sanitary and water supply 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.
  24. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department.
  25. 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 for extra cement considered in consumption on this account.
  26. The contractor shall take instructions from the Engineer-in-charge for stacking of materials. No excavated earth or building materials etc. shall be stacked/collected in areas where other buildings, roads, services, compound walls etc. are to be constructed.
  27. 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.

28. The contractor shall submit for the approval of Engineer-in-Charge names of specialized agencies of repute along with their technical capacity proposed to be engaged by him, who must have executed satisfactorily works of value as specified in mandatory conditions.

- i) 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 there of is complete and unambiguous.

The discrepancy, if any shall be brought to the notice of the Engineer-in-Charge before execution of the work. The contractor alone shall be responsible for any loss or damage executing by the commencement of work on the basis of any erroneous and or incomplete information.

- ii) The contractor shall take all precautions to avoid accidents by, exhibiting caution boards day and night, speed limit boards, red flags, red light and providing necessary barriers and other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.
- iii) Other agencies will also simultaneously execute and install the works of electrification, air conditioning, lifts, fire-fighting etc. for this work and the contractor shall provide necessary facilities for the same. The contractor shall leave such recesses, holes openings etc. as may be required for the electric, air-conditioning and other related works (for which inserts, sleeves, brackets, conduits base pinion, 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 & brick work, if required and nothing extra shall be payable on this account.
- iv) 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 off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.

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

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

- (i) Preparation of detailed SHOP drawings and AS BUILT drawings wherever applicable.
- (ii) Obtaining of Statutory permissions where-ever applicable and required.
- (iii) Pre-commissioning tests as per relevant standard specifications, code of practice, Acts and Rules wherever required.
- (iv) Warranty obligation for the equipments and / or fittings/fixtures supplied by the contractor. Contractor shall provide all the shop drawings or layout drawings for all the co-ordinated services before starting any work or placing any order of any of the services etc. These shop drawings/layout drawings shall be got approved from Engineer-in-charge before implementation and this shall be binding on the contractor. The contractor shall submit material submittals along with material sample for approval of Engineer-in-Charge prior to delivery of material at site.

31. 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. Articles bearing BIS certifications mark shall only be used unless no manufacturer has got BIS mark for the particular material. Any material/fitting whose sample has not been approved in advance and any other unapproved material brought by the contractor shall be immediately removed as soon as directed.

## 32. PREVENTION OF NUISANCE AND POLLUTION CONTROL

- i) The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the

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

- ii) The contractor shall ensure that all the trucks or vehicle of any kind which are used for construction purposes/ or are carrying construction material like cement, sand and other allied materials are fully covered.
- iii) The contractor shall ensure that the construction materials including transportation of earth are covered by tarpaulin.

### 33. Security and Traffic Arrangements

- i. In the event of any restrictions being imposed by the Security agency, CPWD, Traffic or any other authority having jurisdiction in the area on the working or movement of labour /material, the contractor shall strictly follow such restrictions and nothing extra shall be payable to the contractor on such accounts. The loss of time on these accounts, if any, shall have to be made up by augmenting additional resources whatever required.
- ii. No payment shall be made for any damages caused by rain, snowfall, flood, earthquake or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and the work for which payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P/Machinery brought to the site by him.
- iii. The contractor shall construct suitable godowns, yard at the site of work for storing all materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.
- iv. 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 local body and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the local authorities. The 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.
- v. For works below ground level the contractor shall keep that area free from water. If dewatering or bailing out of water is required the contractor shall do the same at his own cost and nothing extra shall be paid.
- vi. The Contractor shall make all necessary arrangements for protecting from rains, fog or likewise extreme weather conditions, the work already executed and for carrying out further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.
- vii. In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any. Further, no claims for hindrance shall be entertained on this account.
- viii. The contractor will take reasonable precautions to prevent his workman and employees from removing and damaging any flora (tree/plant/vegetation) from the project area.

#### 34. Setting out

- (i) The Contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer -in-Charge before commencing work. Commencement of work shall be regarded as the Contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.
  - (ii) If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the Contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer -in-Charge. Nothing extra shall be payable on this account.
  - (iii) The approval by the Engineer-in-Charge, of the setting out by the Contractor, shall not relieve the Contractor of any of his responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.
  - (iv) The Contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the Contractor at his own cost to the entire satisfaction of the Engineer - in-Charge.
  - (v) The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work (including marking of reference points, center lines of buildings), construction and maintenance of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, signage, labour safety, labour welfare and labour training measures, preparatory works, working during monsoon, working at all depths, height and location etc. and any other incidental works required to complete this work. Nothing extra shall be payable on this account.
35. The contractor should have own constructions equipment required for the proper and timely execution of the work. Nothing extra shall be paid on this account. No tools and plants including any special T&P etc. shall be supplied by the Department and the Contractor shall have to make his own arrangements at his own cost. No claim of hindrance (or any other claim) shall be entertained on this account
36. Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed, by the Contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account. It shall be ensured that no damage is caused to any structure due to the scaffolding.
37. The Contractor shall do proper sequencing of the various activities by suitably staggering the activities within various pockets in the plot so as to achieve early completion. The agency to deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period specified. Also ancillary facilities shall be provided by contractor commensurate with requirement to complete the entire work within the stipulated period. Nothing extra shall be payable on this account. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period. It shall be ensured by the Contractor that all the equipment, Tools & Plants, machineries etc. provided by him are maintained in proper working conditions at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the Contractor, on site of work or his workshop for this work, shall be exclusively used in the construction of this work and they shall not be shifted/ removed from site without the permission of the Engineer-in- Charge.
38. The Contractor shall maintain all the work in good condition till the completion of entire work. The Contractor shall be responsible for and shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer-in- Charge shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the Contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be

paid directly to the Department / authority / persons concerned, by the Contractor at his own cost.

39. The Contractor shall take all precautions to abide by the environmental related restrictions imposed by any statutory body having jurisdiction in the area as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor, entirely to the satisfaction of the Engineer- in-Charge and disposed at designated places only. No claim what so ever on account of site constraints mentioned above or any other site constraints, lack of public transport, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.
40. The Contractor shall cooperate with and provide the facilities to the associate Contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the Department (CPWD) against any claim(s) arising out of such disputes. The Contractor shall:
  - i. Allow use of scaffolding, toilets, sheds etc.
  - ii. Properly co-ordinate their work with the work of other Contractors.
  - iii. Provide control lines and benchmarks to his associate Contractors and the other Contractors.
  - iv. Provide electricity and water at mutually agreed rates.
  - v. Provide hoist and crane facilities for lifting material at mutually agreed rates.
  - vi. Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.
  - vii. Adjust work schedule and site activities in consultation with the Engineer-in- Charge and other Contractors to suit the overall schedule completion.
  - viii. Resolve the disputes with other Contractors/ associate contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.
41. The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, firefighting & fire alarm system, information technology, communication & electronics and any other services.
42. All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on project location during excavation/construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant legislation. The contractor will take reasonable precaution to prevent his work men or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal acquaint the Engineer- in-charge of such discovery and carry out the official instructions of Engineer-in- charge for dealing with the same, till then all work shall be carried out in a way so as not to disturb/damage such article or thing.
43. He shall protect and indemnify the Department (CPWD) and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts.
44. The Contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the Department from any and all damages and claims that may arise on any account. The Contractor shall indemnify the Department against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the Department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.
45. **Supervision of work**  
 The Contractor shall depute Site Engineer & skilled workers as required for the work. He shall submit organization chart along with details of Engineers and supervisory staff. It shall be ensured that all decision-making powers shall be available to the representatives of the Contractor at site itself to avoid any likely delays on this account. The Contractor shall also furnish list of persons for specialized works

to be executed for various items of work. The Contractor shall identify and deploy key persons having qualifications and experience in the similar and other major works, as per the field of their expertise. If during the course of execution of work, the Engineer-in-Charge is of the opinion that the deployed staff is not sufficient or not well experienced, the Contractor shall deploy more staff or better experienced staff at site to complete the work with quality and in stipulated time limit. Principle Technical representative of the Contractor having minimum experience in similar nature of work as mentioned in the clause 32 of the General Conditions of the Contract, shall always be available at the site during the actual execution of the work.

#### 46. Cleanliness of site

- i. The Contractor shall not stack building material/malba/muck on the land or road of the institute or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local bye laws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material/malba as stated above, the Contractor shall be liable to pay the stacking charges/penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above accounts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.
- ii. The contractor shall take instructions from the Engineer-In-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- iii. The Contractor shall take all care to prevent any water- logging at site. The waste water, slush etc. shall not be allowed to be collected at site. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.

#### 47. Inspection of work

Officers of CPWD, Local authorities and other Govt. **authorities** shall be inspecting the on-going work at site at any time with or without prior intimation. The contractor shall, therefore, keep updated the following requirements and detailing.

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

#### 48. Personal Safety Measures for Labour

Contractor shall provide the following items for safety of workers employed by contractor and associate agencies:

- i. Protective footwear / helmet and gloves to all workers employed for the work on mixing, cement, lime mortars, concrete etc. and openings in water pipeline/sewer line.
- ii. Welder 's protective eye-shields to workers who are engaged in welding works.
- iii. Safety helmet and Safety harness/ belt Provide adequate sanitation/safety facilities for construction workers to ensure the health and safety of the workers during construction, with effective provisions for the basic facilities such as sanitation, drinking water and safety equipment or machinery.

- iv. All the workers should be wearing helmet and shoes all the time onsite.
- v. Masks and gloves should be worn whenever and wherever required.
- vi. Adequate drinking water facility should be provided at site, adequate number of decentralized latrines and urinals to be provided for construction workers.
- vii. Full time workers (if any with the approval of Engineer-in-Charge) residing on site should be provided with clean and adequate temporary hutment.
- viii. First aid facility should also be provided.
- ix. Overhead lifting of heavy materials should be avoided. Barrow wheel and hand-lift boxes should be used to transport materials onsite.
- x. Tobacco and cigarette smoking should be prohibited onsite.
- xi. All dangerous parts of machinery are well guarded and all precautions for working on machinery are taken.
- xii. Maintain hoists and lifts, lifting machines, chains, ropes and other lifting tackles in good condition. Provide safety net of adequate strength to arrest falling material down below.
- xiii. Use of durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
- xiv. Ensure that walking surfaces or boards at height are of sound construction and are provided with safety rails and belts. Provide protective equipment such as helmets.
- xv. Provide measure to prevent fire. Fire extinguisher and buckets of sand to be provided in fire prone area and elsewhere.
- xvi. Provide sufficient and suitable light for working during night.
- xvii. Ensure that measures to protect workers from materials of construction, transportation, Storage and other dangers and health hazards are taken.
- xviii. Ensure that the construction firm/division/company have sound safety policies.
- xix. Comply with the safety procedure, norms and guidelines (as applicable) as outlined in NBC 2005 (BIS2005c).
- xx. Adopt additional best practices and prescribed norms as in NBC 2005(BIS2005).

#### 49. Water Pollution

- (i) The Contractor shall take all precautionary measures to prevent the wastewater during construction to accumulate anywhere.
- (ii) The wastewater arising from the project is to be disposed off in the manner that is acceptable to the Engineer-in-charge.

#### 50. Air and Noise Pollution

Contractor shall use dust screens and sprinkle water around the construction site to arrest spreading of dust in the air and surrounding areas.

- i. Contractor shall ensure that all vehicles, equipment and machinery used for construction are regularly maintained and confirm that emission levels comply with environmental emission standards/norms.
- ii. For controlling the noise from Vehicles, Plants and Equipments, the Contractor shall confirm the following:
  - a) All vehicles and equipment used in construction will be fitted with exhaust silencers.
  - b) Servicing of all construction vehicles and machinery will be done regularly and during routine servicing operations, the effectiveness of exhaust silencers will be checked and if found defective will be replaced.
- iii. Noise emission from compactors (rollers) front loaders, concrete mixers, cranes (movable), vibrators and saws should be less than 75dB(A).
- iv. As per the standards/guidelines for control of Noise Pollution from Stationary Diesel Generator (DG) sets, noise emission in dB(A) from DG Set (15-500 KVA) should be less than  $94+10 \log_{10} (KVA)$ . The standards also suggest construction of acoustic enclosure around the DG Set and provision of proper

exhaust muffler with insertion loss of minimum 25 dB(A) as mandatory.

### **51. Construction Vehicles, Equipment and Machinery**

- i. All vehicles, equipment and machinery to be procured for construction shall conform to the relevant Bureau of India Standard (BIS) norms.
- ii. Emission from the vehicles must conform to environmental norms.
- iii. Dust produced from the vehicular movement and other site activities is to be mitigated by sprinkling of water.
- iv. Noise limits for construction equipments shall not exceed 75 dB(A), measured at one meter from the edge of the equipment in free area, as specified in the Environment Protection Act, 1986, schedule VI part E, as amended on 9th May, 1993. The maximum noise levels near the construction site should be limited to 65 dB (A) Leq (5 min) in project area.

### **52. Procurement of Construction Materials**

- i. All vehicles delivering construction materials to the site shall be covered to avoid spillage of materials and maintain cleanliness of the roads.
- ii. Wheel Tyres of all vehicles used by the contractor, or any of his sub-contractor or materials suppliers shall be cleaned and washed clear of all dust/mud before leaving the project premises. This shall be done by routing the vehicles through tyre washing tracks.
- iii. Contractor shall arrange for regular water sprinkling at least twice a day (i.e. morning and evening) for dust suppression of the construction sites and unpaved roads used by his construction vehicles.
- iv. Identify roads on-site that would be used for vehicular traffic. Update vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral type that make up the surface base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (smaller than 0.075mm) to 10 -20%. Limit vehicular speed on site 10km/h. Nothing extra will be payable for this.
- v. All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust/particulate emissions.
- vi. Ensure that water spraying is carried out by wetting the surface by spraying water on:
  - Any dust material.
  - Areas where demolition work is carried out.
  - Any unpaved main-haul road and.
  - Areas where excavation or earth moving activities are to be carried out.
- vii. The contractor shall ensure the following:
  - a) Cover and enclose the site by providing dust screen, sheeting of height not less than 6 meter or netting to scaffold along the perimeter of a building or group of the buildings.
  - b) Covering stockpiles of dusty material with impervious sheeting.
  - c) Covering dusty load on vehicles by impervious sheeting before they leave the site.
  - d) Transferring, handling/storing dry loose materials like bulk cement and dry pulverized fly ash inside a totally enclosed system.
  - f) Spills of dirt or dusty materials shall be cleaned up promptly so that the spilled material does not become a source of fugitive dust and also to prevent seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil/ground or runoff in nearby areas.
  - g) Clear vegetation only from areas where work will start right a way.

- viii. Adopt measures to prevent air pollution in the vicinity of the site due to construction activities. There is no standard reference for this. The best practices should be followed (as adopted from international best practice documents and codes).
- ix. The contractor shall provide experienced personnel with suitable training to ensure that these methods are implemented. Prior to the commencement of any work, the method of working, plant equipment and air pollution control system to be used on-site should be made available for the inspection and approval of the Engineer –in-Charge to ensure that these are suitable for the project.
- x. Employ measures to segregate the waste on-site into inert, chemical or hazardous wastes. Recycle the unused chemical/hazardous wastes such as oil, paint, batteries and asbestos. The inert waste is to be disposed off to Municipal Corporation/local bodies dump yard and land fill sites.
- xi. To preserve the existing landscape and protect it from degradation during the process of construction. Select proper timing for construction activity to minimize the disturbance such as soil pollution due to spilling of the construction material and its mixing with rainwater. The construction management plan including soil erosion control management plan shall be prepared accordingly for each month. The application of erosion control measures includes construction of gravel pits and tyre washing bays of approved size and specification for all vehicular site entry/exits, protection of slopes greater than 10%. Sedimentation Collection System and run-off diversion systems shall be in place before the commencement of construction activity. Preserve and protect the existing vegetation by not-disturbing or damaging to specified site areas during construction.
- xii. The Contractor should follow the construction plan as proposed by the Engineer-in-charge to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site.
- xiii. All lighting installed by the contractor around the site and at the labour quarters during construction shall be LED bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed otherwise.

**No extra payment will be made for operation/activity mentioned at above specifically mentioned otherwise.**

### 53. National Green Tribunal Guidelines

- i. The contractor shall not store/dump construction material or debris on metaled road.
- ii. The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the material road. This area shall not cause any obstruction to the free flow of traffic/ inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
- iii. The contractor shall 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 material are fully covered. The contractor shall take every necessary precaution 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.
- iv. 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.
- v. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
- vi. 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.
- vii. The contractor shall compulsorily use of wet jet in grinding and stone cutting.
  - viii. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
  - ix. The contractor shall carry out on-Road-Inspection for black smoke generating machinery.
    - x. The contractor shall use cleaner fuel.
  - xi. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
  - xii. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speedbumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive, the contractor shall divert traffic to nearby paved areas.
  - xiii. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
  - xiv. 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.
  - xv. The natural drainage system should be maintained by the contractor at his own cost. Local Bye-law/ provisions on Rain Water Harvesting should be followed.

No extra payment shall be made for operation/activity mentioned at Sl. No 60 (i) to 60 (xv) above.

#### 54. **Project Monitoring**

- i. The Agency shall prepare the phase wise (monthly) resource chart (materials, manpower and machinery) based on the project execution schedule as per clause 5.1 of GCC.
- ii. The Agency shall submit the photographs & videos of progress of work on fortnightly basis to make it possible to create a short film of the entire execution of the work to be kept in archive.
- iii. Agency shall submit a detailed Monthly progress & program report to the Engineer-in-charge by 5th of every month. The format of monthly progress & program report shall be as approved by Engineer-in-Charge.
- iv. The Agency will make it possible to be represented by a senior level executive who have sufficient financial powers to take decisions required for completing the project intime.
- v. The agency shall stick to the construction schedule, if there is any hindrance or delay due to any reason the same shall be mitigated through engaging extra manpower, material and machinery.

#### 55. **Documentation of work:** Agency shall make documentation in regard to the various stages of progress of work. Nothing shall be paid on this account to the contractor. The scope includes:

- i. Colour photography of the work at month interval or lesser interval as per direction of Engineer-in-charge and at the completion of work covering the entire work upto that stage and supplying the same in soft copy with storage instrument of required capacity as per direction of Engineer-in-charge.
- ii. Videography of the execution of work every three months or lesser interval and at completion of work i/c preparation of documentary with voice over showing the progress of work as directed by Engineer-in-charge.
- iii. Each photograph/video shall be suitably captioned and dated.
- iv. The photographs/video and materials including soft copy shall form a part of the records of CPWD and the prints cannot be supplied to anybody else or published without the written permission of Engineer-in-charge.

All documents i/c photograph/video and other documents in hard copy shall be submitted by the agency to the Engineer-in-charge on monthly basis for record purpose.

## 56. MATERIAL AND QUALITY ASSURANCE

- i. 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.
- ii. 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.
- iii. The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum & glazing work, fire doors and fittings, plumbing work and other works as desired by Engineer In Charge for his approval before execution. The contractor shall also submit bar bending schedule for approval of Engineer-in- charge before execution.
- iv. Frequency and type of tests of various Materials/items/ article shall be conducted as per specifications and relevant BIS-Codes. The test results confirm to the specification/codes.

## 57. Test Laboratories:

### A) Laboratory at site:

The contractor shall establish a testing lab at site **within 15 days after issue of letter of commencement** 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. **In case of delay in establishment of Lab at site, a non refundable recovery of Rs. 1,000/- per day shall be made from Running account bill of the contractor for each delayed days.**

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 equipments:

- a) 7 kg to 10 kg capacity, semi-self indicating type – accuracy 1 gm.
- b) 500 gm capacity, semi-self indicating type – accuracy 1 gm.
- c) Pan Balance – 5 kg. capacity – accuracy 10 gm.
- ii. Ovens- Electrically operated, thermostatically controlled upto 110°C – sensitivity 1°C.
- iii. Sieves: as per IS: 460-1962
  - a) 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.
  - b) 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.
- iv. Balances:
- v. Graduated measuring cylinders 200 ml capacity 03 Nos.
- vi. Enamel trays (for efflorescence test for bricks).

|       |                                                                                                                                     |          |
|-------|-------------------------------------------------------------------------------------------------------------------------------------|----------|
| a)    | 300 mm × 250 mm × 40 mm -                                                                                                           | 02 Nos.  |
| b)    | Circular plates of 250 mm dia -                                                                                                     | 04 Nos.  |
| vii.  | Digital PH meter least count 0.1 mm                                                                                                 | 01 No.   |
| viii. | Digital instrument for checking alignment                                                                                           | 01 No.   |
| ix.   | Water testing kit                                                                                                                   | 02 Nos.  |
| x.    | Steel tape (3 m to 5m)                                                                                                              | 02 each. |
| xi.   | Vernier caliper                                                                                                                     | 01 No.   |
| xii.  | Micrometer screw 25mm gauge.                                                                                                        | 01 No.   |
| xiii. | Coating Thickness meter for measuring thickness of coatings of paints, anodic coatings etc. on both ferrous and non-ferrous metals. | 01 Nos   |

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 and for testing of Cube Sample the plain CC of Mix 10 & 25 the agency will got done all sample from external Lab, 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.

**B) Testing of material: -**

- 1 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.
- 2 All expenditure to be incurred for testing of samples e.g., packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.

**Sampling of Materials:**

- i. All samples of materials including Cement Concrete Cubes shall be taken by the QA engineers deployed by the Contractor and shall be witnessed by the Engineer-in Charge or his authorized representatives as specified in NIT. All the necessary assistance, facilities and safety shall be provided by the contractor. Cost of sample of materials and testing charges shall be borne by the contractor and he/she is responsible for safe custody of samples to be tested at site.
- ii. Sample of building materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.
- iii. 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.
- iv. BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate to

establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and/or the work done.

- v. The contractor shall procure all the materials in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
- vi. All materials 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.
- vii. The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.
- viii. The Stone aggregate/stone, sand shall be brought from any quarries subjected to the said materials confirm CPWD specifications.
- ix. The day-to-day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the Jr. Engineer/Assistant Engineer -in- Charge of work and which shall be duly signed by the contractor or his authorized representative.
- x. 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. However, cost of photographs, slides, audio/videography etc. shall be borne by the department.
- xi. The contractor shall be fully responsible for the safe custody of materials brought by him or issued to him even though the materials are under double lock key system.
- xii. 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.
- xiii. Cement issued shall be for consumption at site only. No cement for factory made items and those not manufactured at site shall be issued.
- xiv. In case there is any discrepancy in frequency of testing as given in the list of mandatory tests and that in the individual sub-head of work as per CPWD specification 2019 Vol. 1 & 2 the higher of the two frequencies of testing shall be adopted.
- xv. Regarding testing of electrical materials, the testing of material shall be conducted in Govt. Laboratory/ Govt. colleges/ IITs / NIT or from the laboratory approved by the competent authority. The charges of testing of materials in approved laboratory shall be borne by the agency.
- xvi. Agency shall submit minimum —Quality assurance Plan within **30 days** after award of work which shall be consisting of:

Lot size, number of required tests and frequency of testing, while deciding these criteria CPWD specifications and provisions of BIS code and Standard Practices may be referred. Volume of work, practical, difficulties and site conditions etc. may be also be kept in view. The lot size, number of tests and frequencies of testing can be altered or modified by the Engineer-in-charge from the prescribed limits.

### **C) Maintenance of Registers:**

- i. All the register of 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 test registers to be issued to the contractor are:
  - a) Materials at site account register.
  - b) Cement register.
  - c) Master test registers.
  - d) Paint register.
  - e) Inspection register.
  - f) Site order register.
- iii. Attendance All the entries in the register will be made by the designated engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE.
- iv. Contractor shall be responsible for safe custody of all the test registers.
- v. 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.
- vi. All Material received at site shall be entered in MAS Register and copy of supply order, MTC and bill-invoice shall be maintained in order. The MAS registers shall be maintained by a qualified staff of agency which may be inspected by Engineer- in- charge or his/her designee at any time. The daily report of receipt of material shall be sent to Engineer-in- charge or his/her designee.
- vii. All the registers of tests carried out at Construction site or in outside laboratories shall be maintained by the agency. Which may be inspected by Engineer-in- charge of his/her designee at any point of time.

#### 58. Additional Conditions for Cement

- i. The **contractor** shall procure Ordinary Portland Cement- 43 grade conforming to IS: 8112 / Portland Pozzolana Cement conforming to IS: 1489 (Part-I) as required in the work, from reputed manufacturers of cement as per preferred make list of material. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement 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.
- ii. 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 conform 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.
- iii. The cement shall be brought at site as per requirement or as decided by the Engineer-in-Charge. The cement godown of the capacity to store a minimum of 200 bags of cements shall be constructed by the contractor at site of work for which no extra payment shall be made.
- iv. 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.

- v. 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.
- vi. 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 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 needs to made.
- vii. 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.
- viii. 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.
- ix. Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot & arid regions, the minimum curing period shall be 14 days or its equivalent.
- x. Till the time, BIS makes it mandatory to print the %age of fly ash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be obtained and permission obtained from Engineer-in-Charge before use of such cements in works.
- xi. The contractor may use OPC in place of PPC only after written permission of Engineer-in- Charge. In such case, no extra payment shall be made in any form to the contractor by the Department.

#### 59. Additional condition for Steel Reinforcement

- i. The Contractor shall procure (**Low Alloy Steel**) of various grades from the **Steel** Manufacturers mentioned in preferred make list for civil works or their authorized dealers/ authorized distributors/channel partners.
  - a) For reinforced cement concrete, the reinforcement bars shall consist of the grades as specified in the GFC drawings conforming to IS 1786 : 2008 (Indian Standard specification for high strength deformed steel bars and wires for concrete reinforcement) as per amendment 3, para 4.2 note 3(Indian standard specification for high strength deformed steel bars and wires for concrete reinforcement) as presently applicable and any further amendments issued during & upto the period of execution/completion. The primary producers of such Low Alloy Steel reinforcement TMT bars shall be as per Preferred makes of the material list incorporated in this tender document.
  - b) The contractor shall obtain manufacturer '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 to which it applies, corresponding to the number or identification mark to be found on the material
- ii. Due to site constraints / availability of space for yard, the cut and bend reinforcement steel has to be procured. 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.
- iii. Samples shall also be taken and got tested by the Engineer-in-charge as per the provisions in this regard

in the relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined under above, the same shall stand rejected and it shall be removed from the site of work by the contractor at his cost within a week time of written orders from the Engineer- in-charge to do so.

- iv. The steel reinforcement shall be brought to the site as per site requirement or as directed by the Engineer-in-charge.
- v. The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent distortion & 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.
- vi. For checking nominal mass, tensile strength, bend test, re-bend test etc. specimens of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

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

- vii. The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the contractor.
- viii. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in the contract or as directed by the Engineer-in-charge. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by the conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment needs to be made.
- ix. The steel brought to the site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge
- x. 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. The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of the test shall be borne by the contractor.
- xi. If the quantity of steel actually used in the work is found to be more than the theoretical quantity of steel 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 steel 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 steel so less used shall be recovered from the contractor at rate as specified in schedule \_F'. Decision of the Engineer-in-Charge in regard to theoretical quantity of steel which should have been actually used and recovery of the rate specified shall be final and binding on the contractor.
- xii. 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.
- xiii. Reinforcement including authorized spacer bars and lappages 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.

- xiv. 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.
- xv. 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.
- xvi. 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.
- xvii. Tolerances on Nominal Mass (individual sample) shall be as under: -

| Sl. No. | Nominal size mm            | Tolerances on the Nominal Mass, percentage |
|---------|----------------------------|--------------------------------------------|
| 1       | Upto and including 10      | -8%                                        |
| 2       | Over 10 upto& including 16 | -6%                                        |
| 3       | Over 16                    | -4%                                        |

### Conditions for Steel Reinforcement

- (i) The contractor shall procure ISI marked TMT Bars of appropriate grade from the steel manufacturer such as List of Preferred Makes for Civil Works. Or their authorized dealer having valid BIS License for IS 1786-2008 (latest AMENDMENT). If TMT bars of any dia of above-mentioned make is not available in market at any time then the contractor on producing non availability certificate from the manufacturers may procure TMT bars of that dia from Steel manufacture as decided by the Engineer-in-Charge.
- (ii) As per CSQ CPWD OM issued by file no. CSQ/SE(TAS)/Steel/2024/262(H) dt. 14.08.2024 Steel bars classified as “Bar Set-I” shall be used in the work. As per Annexure-I(C) of the said OM.

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

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

#### A. FOR BAR SET – I

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

##### 1.1 Chemical Properties

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

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

##### 1.2 Physical Properties

- (i) 0.2 percent proof stress/yield stress, minimum, N/mm<sup>2</sup>.
- (ii) Ratio of Tensile Strength (Ts) to Actual Yield Strength (or 0.2% of yield stress (Ys)) of the test piece N/mm<sup>2</sup>.
- (iii) Elongation, percent, Minimum, on gauge length  $5.65\sqrt{A}$ , where A is the cross-sectional area of the test piece.
- (iv) Total elongation at maximum force, percentage, minimum on gauge length  $5.65\sqrt{A}$ , where A is the cross-sectional area of the test piece.
- (v) Bend test and re-bend test.
- (vi) The mean area of ribs (in mm<sup>2</sup>) per unit length (in mm) above the core of the bar, projected on a plane normal to the axis of the bar.
- (vii) Pull-out testing in accordance with IS 2770 (Part 1).

## 2. Additional requirement

2.1 Permissible limit for Manganese and Copper as follows:

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

2.2 Tempered Martensite Ring Test as per Annexure-1 (d) of OM no. CSQ/SE(TAS)/Steel/2024/262(H) dt. 14.08.2024.

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

**GENERAL TERMS AND CONDITIONS FOR CIVIL WORKS**

Name of Work: - Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27

1. Following office complexes are which are in scope of this work: -
  - i. National Test House (NR) at Kamla Nehru Nagar, Ghaziabad .
2. The Contractor shall employ their regular staff in the works and credentials of employees shall have to be given by the contractor. No claim of contractor's employees/ staff employed for subject work in any form shall be entertained by the department. Police verification of every staff deployed by the contractor shall be got done by the contractor compulsorily and a copy of police verification shall be provided to Engineer-in-Charge after which an identity card duly countersigned by Engineer-in-Charge or his representative shall be issued to each employee of the contractor for proper identification.
3. The contractor shall provide uniform with CPWD logo along with name Badge and shoes within 15 days of start of work. In the event of noncompliance, a recovery of Rs. 25/-per day per employee shall be made. The employee and labours engaged by the contractor under this contract shall wear neat and clean uniforms along with name badges as approved by Engineer- in-Charge.
4. Unless otherwise specified, the agreement rates for all items of work of the schedule of quantities are for all heights, depths, leads and lifts involved in the execution of work.
5. The contractor shall make his own arrangements for obtaining electric connection for carrying out any maintenance activity and make necessary payment directly to the department concerned. In the absence of electric connection or failure of power supply, the contractor shall make his own arrangement of silent type generators.
6. The contractor shall comply with proper and legal orders and directions of the local or public authority or Municipality and abide by their rules and regulations and pay all fees and charges of which he may be liable.
7. The contractor shall take all precautions to avoid accidents by exhibiting caution boards, red flags, red lights and providing necessary barriers and all other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.
8. The contractor shall give due notices to Municipality, Police and/ or other authorities that may be required under the law/ rules under force and obtain all requisite licenses for temporary obstructions/ enclosures and pay all charges which may be leviable on account of his execution of the work under the agreement. Nothing extra shall be payable on this account.
9. Other agencies may also be simultaneously executing some other work entrusted to them by the Engineer-in-charge and the contractor shall offer necessary cooperation wherever required to these agencies so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s). He shall as far as possibly arrange his work and shall place and dispose off the materials being used or removed, so as not to interfere with the operations of other contractors, or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Engineer-in-charge.
10. On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials, the contractor shall be bound to follow all such restrictions and adjust the programme for execution accordingly. Nothing extra shall be paid for idle labour due to such

construction.

11. The work shall be carried out in a manner complying in all respects with the requirements of relevant bye laws of the local bodies, labour laws, minimum wages act, workmen compensation act and other statutory laws enacted by Central Govt. as well as State Govt.
12. (a) All the malba or rubbish obtained from dismantling or otherwise during the execution of the work shall be brought down through the stair case and shall not be thrown to the ground directly from first floor or second floor etc. or malba rubbish generated due to any operation from houses and their open spaces whatsoever shall be disposed off on daily basis by the contractor to the specified common disposal point. After the collection of full truck load of the said malba (approx 4.5 cubic metres), the same shall be disposed off on same day by the contractor to the authorized municipal dhalao/ dumping ground and nothing extra shall be paid on this account. In case of non-removal/disposal in the specified period, a recovery of Rs.2000/- (Rupees Two thousand) per day shall be recovered from the contractor after issuing notice in writing by the Engineer in charge of work.  
  
(b) All the malba or rubbish obtained from dismantling or otherwise during the execution of work shall be collected in the mobile container arranged by contractor free of cost of suitable size placed near the working place. The malba or building rubbish so collected shall be disposed off to the specified common disposal point as decided by the Engineer-in charge, where from the contractor will finally disposed off the collected malba or rubbish to the authorized municipal dhalao/dumping ground. In no case the malba / building rubbish shall be allowed to dump at ground near the working place. A recovery of Rs.2000/- shall be made by engineer-in- charge for every default per day till the final disposal of malba only after issuing a notice in writing by engineer-in-charge of work.
13. No residential accommodation shall be provided to any of the staff engaged by the contractor. The contractor shall also not be allowed to erect any temporary set up for staff in the campus.
14. The contractor shall depute technical staff each for civil and electrical works as per Clause 32 of Schedule F who shall remain present at site,
15. Contractor shall be fully responsible for any damages caused to govt. property or allottee's property by his or his labour in carrying out the work and same shall be rectified by the contractor at his own cost.
16. The contractor shall maintain sufficient quantity of materials and spares at site to meet the requirement of attending the complaints as per direction of the Engineer-in-charge. Stores / bins, if available, shall be handed over to the contractor for storing the material.
17. The contractor shall have to carry out the work according to programme given by the Executive Engineer / Assistant Engineer / Junior Engineer-in-charge. The contractor shall have to adhere to this programme failing which he shall be wholly responsible if or any inconvenience caused to the occupants. No claim for idle labour on any account shall be entertained. The contractor shall depute his representative daily to the site of work. His name and Signature shall be attested by the contractor for record in the department.
18. No special repairs and addition/ alteration work shall be carried out in any quarters/flats without the approval of the representative of the Engineer-in- charge. Any work carried out without approval of the representative of the Engineer-in-charge at the site, the work shall be rejected and shall not be measured and paid for.
19. The cement mortar/cement concrete shall not be mixed or mixed cement mortar / cement concrete shall not be placed on the ground /roads/pucca floor in any case during the execution of work at site. The cement mortar / cement concrete will only be mixed on MS sheet/sheet of other material suitable size. In case of default, the Engineer-in-charge of work shall reject the cement mortar / cement concrete outrightly

if cement mortar/cement concrete mixed on ground/floor/slab/road and such cement mortar/cement concrete shall be removed from the site of work by the agency at his own cost.

20. GST/WCT/Income Tax/ any other taxes as applicable shall be recovered from the contractor's bill.
21. Chases, holes & drilling works etc. shall be done using power operated tools.
22. In case of any accident during the operation / Maintenance of the equipment leading to injuries/damages to human being equipment or loss of life, the contractor shall be fully responsible for settling all claims & indemnify the department against any claims arising out of such accidents.
23. The quoted rate shall be inclusive of any prevailing taxes, duties, levies imposed by the Central/State government/Local bodies. Any new taxes shall be governed as per clause 34 of GCC- 2023 for CPWD work, with up-to-date correction slip.
24. The contractor will carry out preventive maintenance / Checks as per CPWD Specification / respective standard trade practice and as per details attached. The result of such tests will be recorded in proforma as decided by the Engineer-in-charge.
25. The contractor shall give due notices to Municipality, Police and/ or other authorities under intimation to the Engineer in Charge that may be required under the law/ rules under force and obtain all requisite licenses for temporary obstructions/ enclosures and pay all charges which may be livable on account of his execution of the work under the agreement. Nothing extra shall be payable on this account.
26. Materials used shall be in order of preferences as under: -
  - i. Under the Nomenclature of the item
  - ii. Particular specifications and special conditions.
  - iii. CPWD specifications.
  - iv. ISI marked.
  - v. CPWD approved
  - vi. Direction of the Engineer-in-Charge.
27. The Engineer-in-Charge shall have liberty to take respective sample(s) of each item of schedule of quantities in any approved laboratory as decided by him. The sample for testing shall be provided by the contractor. All expenditure required to be incurred for taking sample, conveyance and packing & testing charges etc. shall be borne by the contractor himself. In case any sample particular lot fails in testing the contractor shall be bound to replace the entire lot with fresh material of prescribed specification and the rejected lot shall be returned to the contractor only after fresh lot is supplied. Testing charges in respect of failed sample will be borne by the contractor himself.
28. Rejected materials shall have to be removed by the contractor at his own cost immediately of the instructions of doing so.
29. In case of any dispute regarding rejection of quality of materials the decision of the Engineer- in-Charge shall be final and binding upon the contractor.

## **PARTICULAR SPECIFICATION AND SPECIAL CONDITIONS FOR CIVIL WORK**

### **1. Scope of work**

- i. Name of Work: - Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27
- ii. Following office complexes are which are in scope of this work: -
  - i. National Test House (NR), Kamla Nehru Nagar, Ghaziabad.
- iii. Scope of work shall cover, execution of work as per Bill of quantities, preparation & approval of shop drawings, supply of materials, installation, testing, deployment of engineers & labour, satisfactory workmanship etc. required to be provided in this said scheme/project.
- iv. Work shall be executed as per scope and specification & BOQ. If any service and item and component and provision required for making building/scheme functional/habitat able, if not specifically mentioned in the scope of this tender, the same shall be deemed to be included within the scope of this tender. However, if items for the same are not included in the BOQ, these shall be paid extra.
- v. The rates quoted in schedule of financial quote shall be inclusive of all material, labour workmanship, all taxes i/c GST etc. and other incidental charges.
- vi. The Contractor shall be fully responsible for the execution and supervision of all works in the scope. He shall engage professional & experienced engineers to undertake work in accordance with statutory requirements and condition of this contract.
- vii. Technical specification for construction  
The Contractor shall ensure that the quality and workmanship shall be as per CWPD specifications and other specification mentioned in the tender documents.
- viii. Safety and working Conditions  
The Contractor has to fully comply with all the safety requirements of the latest Factories /Labour Act and all other relevant local Bye-laws, Acts, Regulations, Safety, Health and Environment Handbook 2019, General Conditions of Contract 2023 Maintenance Works & Special Conditions etc. of the tender. The Contractor shall also comply with the requirements of various authorities regarding the removal and discharge of any spoil, surplus materials, debris or other materials.
- ix. Materials  
The quality of the works throughout and workmanship shall be to the satisfaction of Engineer-in charge. All materials shall comply with the relevant latest standards. All materials which do not comply with this Contract and BIS code, the Standards, as applicable, shall be removed from the Site at the Contractor's own expense.

### **2. EARTH WORK**

#### **i. General**

All types of excavation work shall be done in accordance with CPWD specifications 2019 Volume - I & II with correction slips up to the last date of submission of bid.

Any trenching and digging for laying sewer lines / water lines / cables etc. shall be commenced by the contractor only when all men, machinery and material have been arranged and closing of such trench(s) thereafter shall be ensured within the least possible time.

The final development level is to be achieved as per drawings. If there is any requirement of additional earth, the same shall be brought by contractor from outside site. Similarly, if there is any disposal of extra earth, rubbish, malba etc., the same shall be done by contractor as per direction of Engineer-in-charge.

**ii. Setting Out**

The Contractor shall be responsible for accurately setting out the Works to the specified positions, dimensions, levels, and building lines and also surveying the site for dimensional and level accuracy and reporting any discrepancies before the commencement of work. Any errors in position, level, dimension or alignment of any part of the Work at any time shall be rectified by the Contractor at his own expense. The Contractor shall provide the Engineer-in-charge or his authorized representative with all facilities, equipment and labour to enable him to check the setting out and levels of the Works at all times. The checking of any setting out point, line or level by the Engineer-in-charge or his authorized representative shall not in any way relieve the Contractor of his responsibility. All setting out points, benchmarks, site rails, pegs and other survey points shall be clearly marked and protected from damage or disturbance during the execution of the works as per CPWD Specifications.

**iii. Applicable Standards**

The contractor shall ensure to follow the applicable Standards/ Specifications related to the excavation including local building regulations and statutory regulations.

**iv. Labour and Equipment:**

The Contractor shall provide all labours, equipment, materials and any incidentals necessary to complete all aspects of work included in the drawings and specifications.

**v. Related Works**

- a) Clearing, grubbing, and removing all vegetation from the site.
- b) Excavation including getting out and necessary dressing to make surface ready to receive the building.
- c) Filling, back filling and compaction of fills
- d) Removal and disposal of surplus material.
- e) Dewatering.
- f) Road and Compound Wall Works
- g) Bringing shortage of earth from outside the site to raise the NGL as per GFC drawings.

**vi. Disposal of Surplus earth & supply of shortage earth**

All Excavated material including excavated earth declared as surplus and not useful, shall be removed from the site by the contractor as per approved plan. The removal of surplus material shall only be undertaken by the contractor when instructions in this regard are obtained from Engineer-in-charge. Royalty, if any, to be paid to bring shortage of earth by the contractor, nothing extra shall be paid.

No excess excavated earth, malba/rubbish, etc. shall be dumped by the agency at any place inside the campus. Contractor shall also obtain necessary permissions /approvals/ authorization from the competent authority of local body /traffic / police as the case may be for removal of excavated earth/material. No payment/fees on this account shall be entertained by the department. The same system vice versa will be followed by contractor for bringing shortage earth at site from outside. No payment/fees on this account shall be entertained by the department.

**vii. The contractor may encounter rock/stones/boulders during excavation of foundation; trenches or any other earthwork the contractor shall remove the rocks from the site.**

**viii. Dewatering**

Dewatering is in the scope of the contract as per this tender document. Dewatering shall be performed as per CPWD Specifications Volume - I & II with correction slips up to the last date of submission of bid. The contractor shall arrange to have the entire dewatering system throughout the course of the work.

- a) The Contractor shall install, maintain and operate a system of wells, trenches and pumps as required

- for performing the excavations for the areas and subsequent construction of the structure and placement of backfill, in dry condition.
- b) Dewatering of the excavation shall be accomplished in a manner that will prevent seepage, boils, loss of fines, corrosion, softening of the strata, and that will maintain the stability of the bottom and slopes of excavation.
  - c) During excavation/ filling of earth, if any, water supply line, sewer line, electrical cable or any such services are encountered/getting damaged these shall be restored/ shifted by the contractor at his own cost as directed by Engineer-in-charge and nothing extra shall be paid on this account.
  - d) The Contractor shall make necessary arrangement for power supply which shall be of sufficient capacity to maintain all pumps and equipment for both the Basic and Standby systems, operating on a continuous basis.
  - e) In case any damage is caused to the work, in the opinion of Engineer in charge, due to inadequacy or failure of the dewatering system, in part or in whole, then the supply of all labour, materials and plant required to make good for such damage shall be undertaken and re-done by the contractor at his own cost.
  - f) The Dewatering system shall be designed to operate on a continuous basis in such a manner that during excavation, the water level shall be kept below the working level for laying of PCC, concrete or any other work, etc.
  - g) Contractor shall obtain necessary permissions from the competent authority of local body regulatory body/ traffic/ irrigation department etc. at his own level to drain pumped out water. The arrangement shall include cost of material in respect of laying pipes, making drains from site to the final disposal of dewatering pump out water shall be made by the contractor at his own level and cost. No claim shall be entertained on this account by the department.

### 3. REINFORCED CEMENT CONCRETE WORK

The work shall be done as per CPWD specifications 2019 Volume - I & II with correction slips up to previous day to the last date of submission of tender documents. The RCC work shall be with design mixed/ reinforced cement concrete of specified grade at locations as per BOQ, GFC drawings and as directed by the Engineer-in-charge.

- i. 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. Normally, as per Mix Design of various grades cement content goes high and extra cement is consumed. The consumption of extra cement shall be included in the scope of work and extra payment shall be considered on this account.
- ii. For non-scheduled items, the decision of the Engineer-in-charge regarding theoretical quantity of the cement which should have been actually used shall be final and binding on the contractor.
- iii. Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-Charge.
- iv. In case the contractor brings surplus quantity of cement 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.
- v. Cement register for the cement shall be maintained at site. Cement bags shall be stored in separate godowns 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. Each 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 Performa.

#### 4. FORM WORK

##### **Common specifications for Form work:**

The form work is to be executed as per scope of work as defined in the tender documents and per BOQ as per direction of Engineer in charge.

- a) All the specifications for shuttering shall be as per CPWD Specifications. Centering and shuttering for all concrete and reinforced concrete wherever required shall be in steel and or marine plywood treated with preservatives / Film Faced mainly used for concrete purpose to produce a smooth straight level and sharp profiles shall be used for the works for uniform finish on all exposed surfaces.
- b) Panels to be in largest practicable sizes to reduce the number of joints, Form material shall have strength adequate to withstand pressure of newly placed concrete. However, all props, bracings, scaffolding etc., shall be in steel. The entire responsibility of planning, design, erection and safety of formwork shall lie with the Contractor.
- c) Double steel scaffolding having two sets of vertical supports shall be provided for external wall finish, cladding etc. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding platform shall be fixed. Scaffolding shall have steel staircase for inspection of works at upper levels.
- d) As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept depressed, as per drawing or as per direction of Engineer-in-charge, than general floors as required. Shuttering should be adjusted accordingly. Nothing extra is payable on this account.
- e) 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 are required for completing the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.
- f) Side/ edges of slab, beam, chajjas, lintels shall be paid under the relevant construction item of Nothing extra will be paid on account side/edge shuttering.
- g) The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or de-bonding compound shall be applied on the surface of the shuttering plates in the requisite quantity before assembly of steel reinforcement.
- h) For the execution of cantering and shuttering, the contractor shall use proprietary Reebole Chemical Mould release agent of FOSROC or equivalent as shuttering oil as approved by Engineer-in-Charge and nothing extra shall be paid on this account.
- i) Concreting of upper floor shall not be done until concrete of lower floor has set at least for 10 days but form work and reinforcement can be taken up after the concrete has set at least for three days.
- j) All existing formwork that fails to meet the specifications mentioned above or do not qualify to meet the minimum standards in the view of Engineer-in-Charge shall have to removed and stacked.
- k) Formwork design shall consider the following:
  1. Dimensional tolerance
  2. The form work should be demountable without causing shock, disturbance or damage to concrete
  3. All construction joints in beams and slabs shall be provided as shown in drawings.
  4. Ties shall be provided wherever required.
  5. Cambers shall be provided where shown.
  6. Props / supports for extra ceiling height shall be specially designed.
- l) Formwork: - Form work shall be placed and removed as per time line provided in CPWD specifications.

## GUARANTEE BOND FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS

(TOILETS & BATHROOMS/HAND WASH AREA/UNDER GROUND TANK/OVERHEAD  
TANKS/ROOF)

**(On non-judicial stamp paper of minimum Rs. 100)**

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

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

AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water  
and leak-proof for **10 (Ten) years** from the date of completion of work.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the  
structures completely leak-proof and the minimum life of such water proofing treatment shall be **Ten years** to be  
reckoned from date of completion of work.

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

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

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

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

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

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

- 1.
- 2.

Signed for and on behalf of

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

- 1.
- 2.

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF  
DEFECTS AFTER COMPLETION IN RESPECT OF SYSTEM STRUCTURAL GLAZING /  
ALUMINIUM SYSTEM DOORS AND WINDOWS  
(On non-judicial stamp paper of minimum Rs. 100)**

The agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and between \_\_\_\_\_ son of \_\_\_\_\_ (hereinafter called the GUARANTOR on the one part) and the PRESIDENT OF INDIA (hereinafter called the Government on 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 effect that the said work will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, defective anodizing, colouring, sealing and finishing for **5 (Five) years** to be reckoned from the date of completion of work.

NOW THE GUARANTOR hereby guarantees 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 **Five years** to be reckoned from the date of completion of work.

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 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 Obligor .....and by .....and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

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

- 1.
- 2.

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

- 1.
- 2.

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR  
REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER  
SUPPLY, SANITARY INSTALLATIONS & DRAINAGE  
(On non-judicial stamp paper of minimum Rs. 100)**

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

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

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will  
remain structurally stable and guaranteed against faulty workmanship, finishing, manufacturing defects of  
materials etc. for **05 (Five) years** to be reckoned from the date of completion of work.

NOW THE GUARANTOR hereby guarantees that work executed by him will remain structurally  
stable after expiry of maintenance period prescribed in the contract for the minimum life of **05 (Five)** year to  
be reckoned from the date of completion of work.

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 commit breach thereunder, then the guarantor  
will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may  
be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance  
of this supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the  
Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

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

- 1.
- 2.

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

- 1.
- 2

**ANNEXURE-G****PROFORMA FOR MANDATORY TESTS TO BE ATTACHED WITH RUNNING BILLS**

Name of the work..... Name of Contractor.....

Agreement No..... and date.....

R/A Bill No.....

| Sl. No. | Item | Quantities<br>as per<br>agmt. | Frequency as<br>per<br>specification | No. of<br>tests<br>required | Up to date<br>quantity | No. of<br>tests<br>required | No. of<br>tests<br>actually<br>done | Remarks |
|---------|------|-------------------------------|--------------------------------------|-----------------------------|------------------------|-----------------------------|-------------------------------------|---------|
| 1       | 2    | 3                             | 4                                    | 5                           | 6                      | 7                           | 8                                   | 9       |

Note: If the number is less than that required, then reasons shall be recorded.

Signature of Junior Engineer  
Engineer

Signature of Assistant Engineer

Signature of Executive

**On non-judicial stamp paper of minimum Rs. 100**
**Form of Bank Guarantee for Earnest Money Deposit**

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.
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 On non-judicial stamp paper of minimum Rs. 100 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 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

Addition: NIL Correction: NIL

Overwriting: NIL Deletion: NIL

AE(P)

AE(E)P

EE(P)

the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs..... (Rupees ..... only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date .....

Witnesses:

1. Signature.....
2. Authorized signatory
3. Name and address
4. Name designation
5. Signature ..... Bank seal Name and address

**\*Date to be worked out on the basis of validity period of 180 days for two/three bid system from the date of submission of tender.**

**On non-judicial stamp paper of minimum Rs. 100**
**Form of Bank Guarantee for Performance Guarantee/Security  
Deposit/Mobilization Advance/ Refund of milestone withheld amount**

1. Whereas the Executive Engineer ..... (name of division) ,  
CPWD on behalf of the President of India (hereinafter called —The GovernmentI) has entered  
into an agreement bearing number..... with (name and address of  
the contractor) ..... (hereinafter called —the ContractorI) 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/Refund of mile stone withheld amount 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 BankI), 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 On non-judicial stamp paper of minimum Rs. 100  
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 from time to time any of the powers exercisable by the Government against the said  
contractor and to forbear or enforce any of the terms and conditions relating to the said agreement  
and we shall not be relieved from our liability by reason of any such variation or extension being  
granted to the said Contractor or for any forbearance, act of omission on the part of the  
Government or any indulgence by the Government to the said Contractor or by any such matter  
or thing whatsoever which under the law relating to sureties would, but for this provision, have  
effect of so relieving us.
6. We, ..... (indicate the name of the Bank) ....., further agree that  
the Government at its option shall be entitled to enforce this Guarantee against the Bank as a  
principal debtor at the first instance without proceeding against the Contractor and  
notwithstanding any security or other guarantee the Government may have in relation to the  
Contractor's liabilities.
7. This guarantee will not be discharged due to the change in the constitution of the Bank or the  
Contractor.

8. We, ..... (indicate the name of the Bank) , undertake not to revoke this guarantee except with the consent of the Government in writing.
9. This Bank Guarantee shall be valid up to ..... unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs..... (Rupees ..... only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date .....

Witnesses:

1. Signature.....
2. Authorized signatory Name and address      Name
3. Name designation
4. Signature .....      Bank seal Name and address

### LIST OF PREFERRED MAKES FOR CIVIL WORK

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

| S. No. | Material                                                                                                                                                                | Preferred Make                                                                                         |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 1.0    | Anti-Termite Pesticides - (Imidacloprid)                                                                                                                                | Bayer, FMC India, Hindustan Insecticides                                                               |
| 2.0    | <b>Concrete Work</b>                                                                                                                                                    |                                                                                                        |
| (i)    | Ordinary Portland Cement – 43 grade / Portland Pozzolana Cement.                                                                                                        | ACC, Ultratech, Ambuja, Birla, JK                                                                      |
| (ii)   | White Cement                                                                                                                                                            | Birla White, J K White, Ultratech                                                                      |
| (iii)  | Construction Chemicals / Admixtures / Plasticizers / Super Plasticizers                                                                                                 | BASF, FOSROC, Pidilite, Ardex Endura, Mapei, MC Bauchemic, Weber (Saint Gobain), Sika, MYK             |
| (iv)   | Concrete Curing Compounds.                                                                                                                                              | FOSROC, Sika, BASF, Pidilite, CICO, Weber (Saint Gobain), MC Bauchemie, Mapei                          |
| 3.0    | <b>Reinforced Cement Concrete</b>                                                                                                                                       |                                                                                                        |
| (i)    | Corrosion Resistant Steel TMT Reinforcement Bars                                                                                                                        | SAIL (TMT HCR), Tata Tiscon (CRS), RINL (CRM/HSCRM), JSPL (Jindal Panther CRS) and JSW (Neo Steel CRS) |
| (ii)   | Mechanical Couplers for Reinforcement                                                                                                                                   | Dextra India, Halfen, Sanfield, G-Tech                                                                 |
| (iii)  | Anchor fastener, Rebar chemical/Mechanical Fastener, Core Cutting, Expandable Fastener                                                                                  | Hilti, Fisher, Bosch, Wurth, Canon, Trixel, 3M India                                                   |
| (iv)   | Ready Mix Concrete Plants                                                                                                                                               | ACC, Ultratech, JK, Prism RMC Plant                                                                    |
| (v)    | Aluminium customized Shuttering                                                                                                                                         | S-Form, MFE, Eins Technik Pvt. Ltd. ALFOAC, MFS                                                        |
| (vi)   | Alccofine                                                                                                                                                               | Ambuja, Lafarge, Holci                                                                                 |
| (vii)  | Architecture Expansion/ Seismic Joint System                                                                                                                            | Migua, Sanfield, Kantaflex, Construction Specialties, Vexcolt, Hercules, DECG (Deevin)                 |
| (viii) | Core cutting                                                                                                                                                            | Hilti, Fischer, Wuerth                                                                                 |
| 4.0    | <b>Water Proofing</b>                                                                                                                                                   |                                                                                                        |
| (i)    | Crystalline Water Proofing Compound                                                                                                                                     | Penetron Admix, Kryton KIM, Xypex C2000 Admix                                                          |
| (ii)   | Water Proofing swellable bar/ Liquid membrane/ single component applied (spray applied for deck water proofing/ Elastomeric acrylic UV resistant liquid applied coating | CICO, Ardex Endura, MYK Laticrete, Pidilite, BASF, Fosroc, Sika, MC Bauchemie, Kryton, Mapei           |
| (iii)  | Waterproofing PU / Polyurea/ Acrylic / Elastomeric Cementitious / SRI Coating/                                                                                          | Grace, BASF, Fosroc, Pidilite, Sika                                                                    |
| (iv)   | Polysulphide Sealant for Joints joint width 25mm                                                                                                                        | Fosroc, Pidilite, Sika, Dow Corning, Wacker                                                            |
| (v)    | Water proofing membrane HDPE based waterproofing white composite sheet                                                                                                  | Fosroc, Pidilite, W.R. Grace, BASF, Sika, Weber (Saint Gobain), Mapei                                  |
| (vi)   | Water proofing compound                                                                                                                                                 | BASF, Fosroc, Pidilite, Penetron, Sika, Mapei, MC Bauchemie, MYK                                       |

|            |                                                                                |                                                                                                                                        |
|------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| (vii)      | Food Grade Coating for Water Tanks                                             | Grace, BASF, Fosroc, Pidilite, Penetron, Sika, Mapei, MYK, Weber (Saint Gobain), Asianpaints                                           |
| (ix)       | Structural Silicon sealant, Pre pigmented Weather Silicone                     | Dow Corning, Momentive (GE), Tremco, Wacker                                                                                            |
| <b>5.0</b> | <b>Masonry Work</b>                                                            |                                                                                                                                        |
| (i)        | AAC Blocks                                                                     | ACC, Tata Tiscobuild, JK Lakshmi, Jindal Air, Birla Aerocon, Modcrete, Firecrete, Instablock                                           |
| (ii)       | AAC Block adhesive                                                             | Ultratech, Ardex Endura, Ferrous Crete, Weber (Saint Gobain), Asianpaints                                                              |
| (iii)      | Ready mix polymer cement mortar                                                | UltraTech, MYK Arment, Saintgobin -weber, Sika, Fosroc                                                                                 |
| (iv)       | Concrete Block made from C& D Watse                                            | Ultratech, Ardex Endura                                                                                                                |
| <b>6.0</b> | <b>Steel Work</b>                                                              |                                                                                                                                        |
| (i)        | Structural Steel Sections / Tubular Sections                                   | SAIL, Tata Steel, RINL, JSPL , JSW, APL Apollo.                                                                                        |
| (ii)       | Dash / Anchor Fasteners, Rawl Plug                                             | HILTI, Fischer, Bosch, Wurth, Canon                                                                                                    |
| (iii)      | EPDM Gasket                                                                    | Schuco, Hanu, Raven, Anand                                                                                                             |
| (iv)       | Metal deck profile sheet                                                       | Ezydeck of TATA / Lloyd Superdeck, JSW                                                                                                 |
| (v)        | Roofing Steel Sheet (Precoated)                                                | Tata Bluescope Steel Ltd., Jindal Steel, JSW Steel                                                                                     |
| (vi)       | Polycarbonate Sheet                                                            | GE-LEXAN, Polygal, TufliteDalphalon, Coxwell                                                                                           |
| <b>7.0</b> | <b>Aluminium Work</b>                                                          |                                                                                                                                        |
| (i)        | Aluminium Extrusions                                                           | Hindalco, Jindal, NALCO                                                                                                                |
| (ii)       | Anodised Aluminium Hardware (ISI Marked)                                       | HARDIMA, EVERITE, Alu Alpha, Hindalco, Pulse of LGF Sysmac, GLOBAL                                                                     |
| (iii)      | Unitized Aluminium Door & Window Systems                                       | Schuco, Technal, Eternia-Hindalco, Lindner AG, AIS Window system, Fenesta Facade, Prominance Uniframe, Tostem, Altura-Jindal, Encraft. |
| (iv)       | Unitized Aluminium Glass Facade & Structural Glazing Systems                   | Schuco, Technal, Eternia-Hindalco, Lindner AG, AIS Window system, Fenesta Facade, Prominance Uniframe, Tostem                          |
| (v)        | Aluminium Composite Panels / Honeycomb Composite Panels / Aluminium-HPL Panels | Allucobond, Aludecor, Reynoarch, Alutech                                                                                               |
| (vi)       | Metal (Aluminium) Facade Panels                                                | Hunter Douglas, Novelise, Dwall Metallic, Lindner AG, BEMO, Anakon                                                                     |
| (vii)      | Silicone Sealant / Weather Sealant / Fire Sealant / Polysulphide Sealant.      | Alstone, Sika, Dow, Choksey, Hilti, Wuerth (Promat), GE Plastics, Pidilite, FOSROC, BASF                                               |
| (viii)     | Compact Laminate Sheet                                                         | Greenlam, Merino, Fundermax                                                                                                            |
| (ix)       | Fire stops in curtain wall system                                              | Hilti, 3M, STI, Siderise, Fischer, Astroflame, Lorient                                                                                 |
| (x)        | Pop out vent for façade and system window hardware                             | Giesse , Securistyle , Cotswold, Schuco , Technal, Schlegel, Alualpha, Aluk, Reynaers                                                  |
| <b>8.0</b> | <b>Flooring</b>                                                                |                                                                                                                                        |
| (i)        | Glazed, Ceramic & Vitrified wall / floor                                       | Kajaria, Johnson, Somany, Orient bell, Restile                                                                                         |

|            |                                                                             |                                                                                                               |
|------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|            | Tiles (Antiskid/Matt/Glossy)                                                |                                                                                                               |
| (ii)       | Epoxy Grouts / Tile adhesive / Polymer modified cementitious grouts/        | Ardex Endura, Ferrouscurete, MYK Schomburg, Pidilite, FOSROC, Sika, Weber (Saint Gobain), MC Bauchemie, Mapei |
| (iii)      | Epoxy flooring                                                              | MYK Schomburg, BASF, Flowcrete, Ardex Endura, FOSROC, Sika, Weber (Saint Gobain), MC Bauchemie                |
| (iv)       | Wooden Pre-Laminated Engineered Flooring                                    | Vista, Action Tesa, Pergo, Apex, Lamiwood, Kronotex, Greenply, Floormax, Kahrs Enginner Wood product          |
| (v)        | PVC Flooring                                                                | Armstrong, Unitex, LG, Responsive Industries, Tarkett, Tremco                                                 |
| (vi)       | Vinyl Flooring                                                              | LG, 3M, Forbo Responsive Industries, Wonderfloor, Tarkett, Armstrong, Tremco                                  |
| (vii)      | Floor hardener                                                              | Ironite, Ferrok, Hardonate, Weber (Saint Gobain), MC Bauchemie                                                |
| (viii)     | Carpet Flooring                                                             | Interface, Shaw, Welspun, CCIL, Milicon, Flotex                                                               |
| (ix)       | Polyurethane Concrete Flooring, Epoxy flooring, Self-Leveling Flooring      | BASF, Fosroc, Ardex Endura, Sika, Mapei, MYK Arment, MC-bauchemie, Saint Gobain - Weber                       |
| (x)        | Bamboo wood flooring and skirting                                           | EPITOME, ESES Bio Wealth Pvt Ltd.                                                                             |
| (xi)       | Tile trim                                                                   | Genesis, Surfaces, Construction Specialties                                                                   |
| (xii)      | Threshold                                                                   | Genesis, Surfaces, Construction Specialties                                                                   |
| <b>9.0</b> | <b>Roofing / False Ceiling / Partition EPF</b>                              |                                                                                                               |
| (i)        | Calcium Silicate / Mineral Fiber False Ceiling Tiles and frame work         | Saint Gobain, Armstrong, Aerolite, Ramco Hilux, USG Borals, Anakon, Dexune                                    |
| (ii)       | Gypsum Board False Ceiling/Partition and frame work                         | Saint Gobain Gyproc., USG Boral, Armstrong, Knauf AMF, Anakon, Dexune, Western                                |
| (iii)      | Metal / U-Baffle / Open Cell / Wooden Laminated false ceiling i/c framework | Armstrong, Hunter Douglas, Lindner AG, Anakon, Dexune, Western                                                |
| (vi)       | Rock Wool / Glass Wool/ Polyester wadding                                   | UP Twiga, Roxul (Rockwool), Rockloyd (Lloyd Insulations), Dhanbad Rockwool, Dexune, Rockfon                   |
| (vii)      | Fiber cement board                                                          | HIL (Birla Aerocon), Bison (NCL), RAMCO Hicem, Everest, Visaka Industries, Dexune                             |
| (viii)     | Extruded Polystyrene Insulation Board                                       | Du Pont, Dow Corning, Supreme, Texas, Analco, Unitech-ikk, Sika                                               |
| (ix)       | Heat Resistant Tiles                                                        | Kajaria, Somany, Johnson, AGL                                                                                 |
| (x)        | Dry wall Gypsum partition/ paneling system for toilet, Gypsum wall paneling | Saint Gobain, USG Boral, Knauf Danoline                                                                       |
| (xi)       | Acoustic panel                                                              | Envirotech Systems/Bajaj Acoutex/Silence Panel, Anutone, Techno Ceiling, Rockworth, Knauf Armstrong           |
| (xii)      | Access panel in False ceiling system                                        | Saint Gobain, USG Boral, Knauf Danoline                                                                       |
| (xiii)     | Wood Wool Acoustical Panel                                                  | Envirotech Systems/Armstrong/ Rockworth,                                                                      |

| 10.0    | Doors / Windows / Wood work/Partition/Fitting/SS Hardware                           |                                                                                                                  |
|---------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| (i)     | Flush Door Shutter                                                                  | Century, Greenply, Duro, Merino                                                                                  |
| (ii)    | Ply Wood / Block Board                                                              | Century, Greenply, Merino, Archidply, Duro                                                                       |
| (iii)   | Laminated Particle Board / veneered Particle Board                                  | Greenlam, Century, Archidply, Merino                                                                             |
| (iv)    | Laminate                                                                            | Greenlam, Century, Merino                                                                                        |
| (v)     | Veneers                                                                             | Greenply, Century, Merino                                                                                        |
| (vi)    | Acrylic sheet/Acrylic laminate                                                      | Rehau, Opulux, Treelam, Praveedh Décor, EGR                                                                      |
| (vii)   | Wood Plastic Composite (WPC) Board                                                  | Archidply, Century, Greenlam, Floresta, Rajshree, Alstone                                                        |
| (viii)  | Factory made wooden Door Frames & Shutter                                           | Jain wood Industries, Kutty, D S Doors, Duro, Ambika Wood, Shreeji Woodcraft, SM Corporation, Jain Doors Pvt Ltd |
| (ix)    | Factory made kitchen cabinets, wardrobes etc.                                       | Evoke, Godrej, Brown Crust, Sleek                                                                                |
| (x)     | UPVC Doors & Windows                                                                | Fenesta, VEKA, KOMERLING, RHEAU, Green Fenestration technology,                                                  |
| (xi)    | G.I. Steel Door Frame                                                               | Kutty Doors, Shakti Metdoor, NAVAIR, Synergy Thrislington.                                                       |
| (xii)   | Fire Rated Metal/Wooden/Acoustic Doors (Glazed/Unglazed/sliding)                    | Tata Pravesh, Pacific, Navair, Sukriti, Bhawani, ASSES, Vetrotech, 4C Fire, Supreme Metwood, Shakti Hormann      |
| (xiii)  | Fire Rated Glass                                                                    | Pilkington, SCHOTT, FIRELITE, Saint Gobain, ASAHI, Pyroguard, Supreme Metwood                                    |
| (xiv)   | Hardware for Fire Check Doors                                                       | Dorma, Hafele, Geze, Wuerth, Becker FS                                                                           |
| (xv)    | S.S. Hardware, Door & Window Fittings, Hinges (ISI Marked)                          | Dorma, Godrej, Hafle, Kich, Dorset, HARISON, GLOBAL                                                              |
| (xvi)   | Modular Office & Home Furniture – Table, Chair, Sofa, Bed, Dining Table/Chairs etc. | Godrej, Steelcase, Featherlite, Rockworth, Durian                                                                |
| (xvii)  | Storage - Compactors, Metal Almirah etc.                                            | Godrej, Compress, HNI, Integrity                                                                                 |
| (xviii) | All type of Door lock including Mortice locks                                       | Dormakaba, Yale, Geze, Hafele, Kich, Godrej, Dorset                                                              |
| (xix)   | Aluminium extrusions (other than window) system                                     | Hindalco, Jindal, Indalco                                                                                        |
| (xx)    | Fire Seal, Fire smoke Seal                                                          | 3M, Hilti, Dormakaba, Lorient, Kilargo, Raven, Athmer, Promat, Pyran                                             |
| (xxi)   | Acoustic Seal / Door seal                                                           | Athmer, Lorient, Raven, Dormakaba, 3M, Kilargo, Reddiplex, Hafele                                                |
| (xxii)  | PVB/SGP Laminate Film, Sentry film                                                  | Dupont, Saflex, Eastman, Kuraray, XDS, LG, 3M, Saint Gobain                                                      |
| (xxiii) | Wood Adhesive                                                                       | Speedex Fevicol, Araldite, kerakol, Astral, 3 M                                                                  |
| (xxiv)  | Mattress                                                                            | Durian, Kurlon, Sleepwell, Duroflex                                                                              |

|             |                                                                                              |                                                                                                                                                                   |
|-------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>11.0</b> | <b>Finishing Works</b>                                                                       |                                                                                                                                                                   |
| (i)         | Ready Mix Plaster                                                                            | Ardex Endura, Ferrouscrete, MYK Schmburg, Pidilite, FOSROC, Sika, Asianpaints                                                                                     |
| (ii)        | Gypsum Plaster / Ready Mix Plaster/ Polymer modified self-curing Mortar                      | Saint Gobain (Elite 90), Ferrous Crete, Ardex Endura, Pidilite, FOSROC, Asianpaints                                                                               |
| (iii)       | Cement Primer                                                                                | Nerolac, Berger, BP White (Berger), Decoprime WT(Asian), White primer (ICI), Acro paints                                                                          |
| (iv)        | Cement Based & Acrylic Wall putty                                                            | Birla, JK White, Asianpaints, Ferrous Crete, Acro paints                                                                                                          |
| (v)         | Acrylic Distemper (washable/ Real mix/ Low VOC)                                              | Asian paints (Tractor Aqua Lock Paint), Berger (Commando) Acro Paints (Aqualin AWD) or equivalent paints of Nerolac or ICI-Dulax, JK MAXX (Jumbo)                 |
| (vi)        | Acrylic Emulsion Paints                                                                      | Asian paints (Professional Premium Interior Emulsion Paint), Nerolac (Beauty Gold), Berger (Rangoli total care), ICI-Dulux (Super Cover), Acro Paints (Acropearl) |
| (vii)       | Texture Finish                                                                               | Asian paints, Bakelite & Hylam, Spectrum, Heritage, Ultratech Texture Paints, JK MAXX (Patternz)                                                                  |
| (viii)      | Exposed Concrete Texture Finish                                                              | Ultratech Texture Paints, Armourcoat, Oikos, Heritage, Spectrum                                                                                                   |
| (ix)        | Steel Primer (Red Oxide Zine Chromate Primer)                                                | Asian paints, Nerolac, Berger, ICI-Dulax, Acropaints.                                                                                                             |
| (ix)        | Synthetic Enamel Paint                                                                       | Asian (Apolite Premium gloss enamel), Nerolac (Synthetic Hi gloss), Berger (Luxol Hi gloss), ICI-Dulux (Gloss Synthetic Enamel), Acro paints (Acrogold)           |
| (x)         | Paint- Texture Concept Paints (Interior)                                                     | Asian paints, Ultratech Texture Paints, Berger, acro paints                                                                                                       |
| (xi)        | Paint- Anti carbonation paint                                                                | Fosroc, Pidilite, BASF, Asianpant, Sika                                                                                                                           |
| (xii)       | Wood Primer                                                                                  | Asian paints, Berger, ICI-Dulax, Nerolac.                                                                                                                         |
| (xiii)      | Melamine Polish for wood work                                                                | Asian Paints Melamine Gold, Wudfin of Pidilite, Timbertone of ICI-Dulux, MRF                                                                                      |
| (ix)        | PU polish for wood work                                                                      | ICA, MRF, Asian, Berger                                                                                                                                           |
| (x)         | Epoxy Paint                                                                                  | Asian, Nerolac, Berger, ICI, Kansai Akzo Nobel                                                                                                                    |
| (xi)        | Fire Resistant Paint                                                                         | Asian paints, Akzo Nobel Coatings India Ltd., Viper.                                                                                                              |
| (xii)       | Polyester Powder coating/ PVDF Coating                                                       | Jotun, Akzo nobel, Asian PPG, Nippon                                                                                                                              |
| (xiii)      | Water & Stain repellant coating for stone cladding and stone Flooring                        | Killick Guard Speciality Products Limited, Dow corning, Wacker, Akemi, MYK Laticrete, Ardex Endura, Weber                                                         |
| <b>12.0</b> | <b>Water Supply &amp; Sanitary Works</b>                                                     |                                                                                                                                                                   |
| (i)         | Stainless Steel pipe and fitting of grade AISI 304 as per JIS standard 3448 for water supply | SAIL (Salem Steel), Jindal, J-Press                                                                                                                               |

|             |                                                                                                                 |                                                                              |
|-------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
|             | line & Fittings                                                                                                 |                                                                              |
| (ii)        | G.I. Pipe                                                                                                       | Tata Steel, Jindal Pipes, Prakash Surya, APL Apollo Tubes                    |
| (iii)       | GI Pipe Fittings                                                                                                | Unik, Zoloto, Surya, Jinda Pipesl, Tata Steel                                |
| (iv)        | U-PVC pipe and Fittings                                                                                         | Supreme, Finolex, Astral, Prince, AKG, Birla HIL, Prayag                     |
| (v)         | C-PVC pipe and Fittings                                                                                         | Supreme, Finolex, Astral, Prince, AKG, Ashirwad, Oriplast, Birla HIL, Prayag |
| (vi)        | M.S. Black Pipes                                                                                                | Tata, Jindal, SAIL, APL Apollo.                                              |
| (vii)       | CP Fittings (Premium range)                                                                                     | Kohler, Jaquar, Grohe, Roca                                                  |
| (viii)      | Sanitary ware / Fixtures / Fittings (Premium range)                                                             | Kohler, Grohe, Jaquar, Roca                                                  |
| (ix)        | Urinal/Shower Frosted Glass partition                                                                           | Kohler, Grohe, Jaquar, Roca                                                  |
| (x)         | Sensor Operated Urinal                                                                                          | Jaquar, Hindware, Roca, Kohlar                                               |
| (xi)        | Especially abled Fitting                                                                                        | Pressalit, Hindustan, Cardin                                                 |
| (xii)       | Gun Metal Valves/Sluice Valves/ Air Release Valves                                                              | Zoloto, Audco (L&T), Castle, Leader Valves, SKS                              |
| (xiii)      | Sluice Valve / Pressure Reducing valve / non-return valve / check valve / Butter fly valve / ball valve         | Zoloto, Kirloskar, Leader Valves, Zoloto, SKS, Castle, Audco (L&T)           |
| (xiv)       | Toilet Cubicles                                                                                                 | Century, Merino (Titan Series), Greenlam (Sturdo Classic)                    |
| (xv)        | Insulation for external / exposed hot water pipes                                                               | KAIFLEX, ARMAFLEX, CAREFLEX                                                  |
| (xvi)       | Pipe protection for external water supply pipes                                                                 | PYPKOTE, ARMAFLEX, AKPOLYKOTE                                                |
| (xvii)      | Water Meter                                                                                                     | Prima, Kranti, Leader, Zoloto, Dashmesh                                      |
| (xviii)     | Brass stop & Bibcock                                                                                            | Zoloto, Sant, L&K, Leader,                                                   |
| (xix)       | Brass Ferrules                                                                                                  | Dhawan Sanitary Udyog (PRIMA), Annapurna, Kalsi                              |
| <b>13.0</b> | <b>Drainage</b>                                                                                                 |                                                                              |
| (i)         | Soil Waste / Vent Pipes and Fittings:                                                                           |                                                                              |
|             | a) Hub less Centrifugally Cast Spun Iron Pipe and fittings                                                      | NECO, SKF, Hepco, RPMF.                                                      |
|             | b) Centrifugally (Spun) CI Pipes Class 'LA' / Ductile Iron Pipe                                                 | Kesoram, Electro Steel Castings Ltd., NECO, RPMF.                            |
| (ii)        | C.I. Manhole covers, frames & GI Gratings                                                                       | NECO, BIC, RIF, SKF, Hepco, Kapilansh, RPMF.                                 |
| (iii)       | Unplasticized Non-Pressure Polyvinyl Chloride (PVC-U) Pipes underground conforming to IS: 15328-2003 & Fittings | Supreme, Astral, Finolex, Ashirvad                                           |
| (iv)        | Low noise system rain water pipes and fittings made of mineral reinforced Poly Propylene                        | Supreme, Astral, Finolex, Ashirvad                                           |
| (v)         | Drainage AC/HDPE Pipes                                                                                          | Jain Pipes, Oriplast, Reliance, MAZZA AC Pipes,                              |

|             |                                                                         |                                                                                                                |
|-------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|             |                                                                         | Supreme                                                                                                        |
| (vi)        | DI Pipes & Fittings                                                     | Supreme, Electrosteel, Jindal, TATADUCTURA, Kesoram                                                            |
| (vii)       | SFRC Manhole covers & gratings                                          | KK, JAIN, PARGATI                                                                                              |
| <b>14.0</b> | <b>Stainless Steel &amp; Glass Works</b>                                |                                                                                                                |
| (i)         | Modular SS-304/316 Grade / Glass Railing with SS-304/316 grade Hardware | Dorma Kaba, GEZE, Hafele, Kich, Godrej, TATA, Art N Glass, S.S. Railing                                        |
| (ii)        | Stainless Steel Sink                                                    | Neelkanth, Niralli, Jayna, Prayag                                                                              |
| (iii)       | Float Glass                                                             | Saint Gobain Glass India Ltd., Emirates Glass LLC, AIS Glass Solutions Ltd., Pilkington, Modi Guard, Glaverbel |
| (iv)        | High Performance Glass                                                  | Saint Gobain Glass, Pilkington, Guardian, Emirates Glass LLC, Glaverbel, AIS Glass.                            |
| (v)         | Lacquered Glass                                                         | Saint Gobain Glass, AIS Glass, Art N Glass, Guardian                                                           |
| (vi)        | Glass Processor for making DGU/Toughening                               | Art N Glass, Shankar Tuff, Sheeshmahal, Shivshakti, GSC, Kaimapnat Glass, SK Tuff, AIS Glass                   |
| (vii)       | Mirrors/ interior mirror (superior quality crystal clear)               | Saint Gobain, Modi Guard (Gujarat Guardian), AIS, Sisecam, Pilkington, ATUL                                    |
| <b>15.0</b> | <b>Miscellaneous</b>                                                    |                                                                                                                |
| (i)         | Terracotta Ventilated Façade System (Panel) Cladding Tiles              | Nuvocotto, Hunter Douglas, Moeding, Terreal, Claytone                                                          |
| (ii)        | SS Dry Cladding Anchor with SS Clamp                                    | Hilti, Fisher, Wuerth, Trixel                                                                                  |
| (iii)       | Solid Acrylic Surface Boards                                            | Dupont, LG Himacs, Neonnex, Hanex, GMGR India                                                                  |
| (iv)        | Modular Expansion / Seismic Joint System                                | Herculus, Sanfield, Vexcolt, MigUA, Katanaflex, Inprocorp                                                      |
| (v)         | Solid Surface (Corian)                                                  | Dupont, Neonnax, LG, Samsung                                                                                   |
| (vi)        | Window Blinds                                                           | Vista, Deck, Hunter Douglas, MAC                                                                               |
| (vii)       | Fire Sealant                                                            | Hilti, 3M India, Wuerth, Fischer                                                                               |
| (viii)      | Modular Rainwater Harvesting system                                     | Retas Enviro Solutions Pvt Ltd, Bantair Pvt Ltd, Adwyn Impex Pvt Ltd, Life green system Ltd                    |
| (ix)        | Precast GRC / Sand Stone Jali (Screen)                                  | Unistone, Birla GRC                                                                                            |
| (x)         | Wall Paper                                                              | D'décor, Lifencolours, India Circus, Ego, Vescom, Nilaya by Asian Paints, Muraspec, Marshalls                  |
| (xi)        | XPS Board/ Dimple board                                                 | Supreme, Insuboard, Soprema, Own corning, Shalimar, Technonicol, Pidilite                                      |
| (xii)       | Expansion filler board                                                  | Supreme, Insuboard, Soprema, Shalimar, Own corning, Technonicol                                                |
| (xiii)      | Concrete / HDPE/Grass grid pavers                                       | Ovilite Industries, Eco Vision Industries, Dalal, Unistone                                                     |
| (xiv)       | Drain board                                                             | Ovidrain, Tikidan, Technonicol, Virendra textile, Soprema                                                      |
| (xv)        | Expansion Joint filler / Joint covers                                   | Vexcolt International Ltd, Construction Specialities, Sainfield, Hercules, MIGUA, Mapei, Balco India, Z-       |

|             |                                                             |                                                    |
|-------------|-------------------------------------------------------------|----------------------------------------------------|
|             |                                                             | tech, Inprocorp                                    |
| (xvi)       | Poly-sulphide Sealant for Joints<br>joint width up to 25 mm | Pidilite, Sika, Dow Corning, Wacker                |
| <b>16.0</b> | <b>EXTERNAL DEVELOPMENT WORK</b>                            |                                                    |
| (i)         | Safety and road marking paint & equipment                   | 3M India Ltd, Protector, Ananta Inc, Asian (paint) |

**Note:**

Makes other than specified above (if necessary) shall be approved by **the Executive Engineer, Ghaziabad Division - II, CPWD, CGO-I, Ghaziabad with prior approval of CE/Ghaziabad.**

The firm has to ensure that equipment manufacturer comes under definition of local manufacturers as per Govt. of India, Policy of Public Procurement (Preference to make in India) order, 2017 (PPM-MII order 2017) issued by Department of Industrial Policy and Promotion. Only products conforming to above policy shall be allowed to be used in the work.

Executive Engineer  
Ghaziabad Division II,  
CPWD, Ghaziabad

| Schedule of Quantity                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |      |          |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|----------|-------------|
| <b>Name of work: - Replacement of profile sheet, water proofing treatment in High Voltage Laboratory and Construction of 02 (Two) Nos Badminton Court at National Test House (NR), Kamla Nehru Nagar, Ghaziabad dg 2026-27.</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |      |          |             |
| S No                                                                                                                                                                                                                            | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Qty    | Unit | Rate     | Amount      |
| 1                                                                                                                                                                                                                               | Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lift upto 1.5 m, as directed by Engineer-in- Charge:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |      |          |             |
| 1.1                                                                                                                                                                                                                             | All kinds of soil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 352.00 | sqm  | 129.85   | 45,707.00   |
| 2                                                                                                                                                                                                                               | Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20.00  | cum  | 196.00   | 3,920.00    |
| 3                                                                                                                                                                                                                               | Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 53.00  | cum  | 2,123.75 | 1,12,559.00 |
| 4                                                                                                                                                                                                                               | Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete.<br>Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. |        |      |          |             |
| 4.1                                                                                                                                                                                                                             | All works upto plinth level :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |      |          |             |
| 4.1.1                                                                                                                                                                                                                           | Concrete of M10 grade with minimum cement content of 220 kg /cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 35.00  | cum  | 8,835.15 | 3,09,230.00 |
| 4.1.2                                                                                                                                                                                                                           | Concrete of M25 grade with minimum cement content of 300 kg /cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 35.00  | cum  | 9,439.05 | 3,30,367.00 |
| 5                                                                                                                                                                                                                               | Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |      |          |             |
| 5.1                                                                                                                                                                                                                             | Granite stone slab of colour black, Cherry/Ruby red                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |      |          |             |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |       |          |             |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|----------|-------------|
| 5.1.1  | Area of slab upto 0.50 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 36.00  | sqm   | 5,413.50 | 1,94,886.00 |
| 5.1.2  | Area of slab over 0.50 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 7.00   | sqm   | 5,136.30 | 35,954.00   |
| 6      | Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick :                                                                                                                                                                                                                                                                                                                                                         |        |       |          |             |
| 6.1    | Fly proof stainless steel grade 304 wire gauge with 0.5 mm dia. wire and 1.4mm wide aperture with matching wood beading                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12.00  | sqm   | 1,800.45 | 21,605.00   |
| 7      | Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |       |          |             |
| 7.1    | Fixed to steel windows by welding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 551.00 | kg    | 219.10   | 1,20,724.00 |
| 8      | Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 60.00  | kg    | 117.35   | 7,041.00    |
| 9      | Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |       |          |             |
| 9.1    | 4.0 mm thick glass panes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 233.00 | sqm   | 1,064.65 | 2,48,063.00 |
| 10     | Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |       |          |             |
| 10.1   | 40 mm thick with 20 mm nominal size stone aggregate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 352.00 | sqm   | 614.20   | 2,16,198.00 |
| 11     | Providing and fixing glass strips in joints of terrazo/ cement concrete floors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |       |          |             |
| 11.1   | 40 mm wide and 4 mm thick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 300.00 | metre | 91.75    | 27,525.00   |
| 12     | Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily. |        |       |          |             |
| 12.1   | Double charge vitrified tile polished finish of size                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |       |          |             |
| 12.1.1 | Size of Tile 600 x 600 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 249.00 | sqm   | 1,453.63 | 3,61,954.00 |
| 13     | Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.                                                                                                                                                                                                                              |        |       |          |             |
| 13.1   | Size of Tile 600x600 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 22.00  | sqm   | 1,515.15 | 33,333.00   |

Addition: NIL Correction: NIL

Overwriting: NIL Deletion: NIL

AE(P)

AE(E)P

EE(P)

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |       |          |             |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|----------|-------------|
| 14   | Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-Charge) of total coated thickness 0.50mm (base metal of minimum 0.45mm thickness with total coating thickness of 0.05mm) with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 660.00 | sqm   | 738.65   | 4,87,509.00 |
| 15   | Providing and fixing precoated galvanised steel sheet roofing accessories of total coated thickness 0.50mm (base metal of minimum 0.45mm thickness with total coating thickness of 0.05mm) with Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |       |          |             |
| 15.1 | Ridges plain (500 - 600mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 33.00  | metre | 532.35   | 17,568.00   |
| 16   | Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm centre to centre, and cross "T" of size 24x28 mm made out of 0.33 mm (Minimum) sheet, 1200 mm long spaced between main 'T' at 600 mm centre to centre to form a grid of 1200x600 mm and secondary cross 'T' of length 600 mm and size 24 x28 mm made of 0.33 mm thick (Minimum) sheet to be inter locked at middle of the 1200x 600 mm panel to from grid of size 600x600 mm, resting on periphery walls /partitions on a Perimeter wall angle pre-coated steel of size(24x24X3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm centre to centre with 25 mm long dry wall screws @ 230 mm interval and laying 15 mm thick densified edges calicum silicate ceiling tiles of approved texture in the grid, including, cutting/ making opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required. Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200 mm centre | 150.00 | sqm   | 2,158.15 | 3,23,723.00 |

Addition: NIL Correction: NIL

Overwriting: NIL Deletion: NIL

AE(P)

AE(E)P

EE(P)

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |     |          |             |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|----------|-------------|
|      | to centre along main 'T', bottom exposed with 24 mm of all Tsections shall be pre-painted with polyster baked paint, for all heights, as per specifications, drawings and as directed by Engineer-in-Charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |     |          |             |
|      | Note :- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30 sqm.The calcium silicate ceiling tile shall have NRC value of 0.50 (Minimum), light reflection > 85%, non-combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity <0.043 w/mK.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |     |          |             |
| 17   | Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on interlocking metal grid of hot dipped galvanized steel sections ( galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanized butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge. |        |     |          |             |
| 17.1 | 8 mm thick fully perforated calcium silicate board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process to give stable crystalline structure with minimum compressive strength 225 kg/ sq. cm, bending strength 100 kg/sq. cm , of size 595x595 mm, having perforation of dia. 10 mm with minimum perforated area 18 % with non woven tissue on the back side, having an NRC ( Noise Reduction Coefficient) of 0.85, with 50 mm thick rockwool of 48 kg /cum backing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 467.00 | sqm | 1,789.45 | 8,35,673.00 |
| 18   | 12 mm cement plaster of mix :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |     |          |             |
| 18.1 | 1:4 (1 cement: 4 coarse sand)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20.00  | sqm | 357.35   | 7,147.00    |
| 19   | Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |     |          |             |

|      |                                                                                                                                                                                                                                                                                                                                                  |          |     |           |             |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|-----------|-------------|
| 19.1 | New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm)                                                                                                                                                                                                            | 1,738.00 | sqm | 171.10    | 2,97,372.00 |
| 20   | Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :                                                                                                                                                                                                                                                   |          |     |           |             |
| 20.1 | Two or more coats on new work                                                                                                                                                                                                                                                                                                                    | 279.00   | sqm | 155.90    | 43,496.00   |
| 21   | French spirit polishing :                                                                                                                                                                                                                                                                                                                        |          |     |           |             |
| 21.1 | Two or more coats on new works including a coat of wood filler                                                                                                                                                                                                                                                                                   | 25.00    | sqm | 446.25    | 11,156.00   |
| 22   | Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.                                                                                                                                                  | 3,454.00 | sqm | 156.05    | 5,38,997.00 |
| 23   | Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.                                                                        |          |     |           |             |
| 23.1 | Two coats                                                                                                                                                                                                                                                                                                                                        | 1,716.00 | sqm | 142.80    | 2,45,045.00 |
| 24   | Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.                                                                                                                                               | 3,404.00 | sqm | 25.15     | 85,611.00   |
| 25   | Repair to plaster of thickness 12mm to 20 mm in patches of area 2.5 sqm and under, including cutting the patch in proper shape, raking out joints and preparing plastering the wall surface with white cement based polymer modified self curing mortar, including disposal of rubbish, all complete as per the direction of Engineer-In-Charge. | 50.00    | sqm | 670.95    | 33,548.00   |
| 26   | Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.                                                                                                                                                                                                                               |          |     |           |             |
| 26.1 | For thickness of tiles 10 mm to 25 mm                                                                                                                                                                                                                                                                                                            | 62.00    | sqm | 73.40     | 4,551.00    |
| 27   | Demolishing mud phaska in terracing and disposal of material within 50 metres lead.                                                                                                                                                                                                                                                              | 80.00    | cum | 914.30    | 73,144.00   |
| 28   | Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of:                                                                                                                                                                                                                        |          |     |           |             |
| 28.1 | G.S. Sheet                                                                                                                                                                                                                                                                                                                                       | 660.00   | sqm | 164.95    | 1,08,867.00 |
| 29   | Supplying at site :                                                                                                                                                                                                                                                                                                                              |          |     |           |             |
| 29.1 | R.C.C. Standards post/ struts/rails/ pales of mix 1:1.5:3 (1 cement : 1.5 coarsesand : 3 graded stone aggregate 12.5 mm nominal size) with wooden plugs or 6mm bar nibs wherever required as per direction of Engineer-in- charge (cost of earth works in excavation, concrete works in foundation to be paid separately).                       | 0.50     | cum | 32,891.20 | 16,446.00   |
| 30   | Providing and fixing G.I. chain link fabric fencing of required width in mesh size 25x25 mm made of G.I. wire of dia 3 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.                                                                                 | 51.00    | sqm | 1,149.25  | 58,612.00   |
| 31   | Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with                                                                                                  |          |     |           |             |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |     |          |             |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|----------|-------------|
|        | dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :       |        |     |          |             |
| 31.1   | For fixed portion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |     |          |             |
| 31.1.1 | Powder coated aluminium (minimum thickness of powder coating 50 micron)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 630.00 | kg  | 530.90   | 3,34,467.00 |
| 31.2   | For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)                                                                                                                                                                                                                                                                                                    |        |     |          |             |
| 31.2.1 | Powder coated aluminium (minimum thickness of powder coating 50 micron)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 191.00 | kg  | 634.45   | 1,21,180.00 |
| 32     | Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.                                                                                                                                                                                              |        |     |          |             |
| 32.1   | Pre-laminated particle board with decorative lamination on both sides                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 105.00 | sqm | 1,115.40 | 1,17,117.00 |
| 33     | Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:                                                                                                                                                                                                                                                                                                                                                             |        |     |          |             |
|        | (a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.                                                                                                                                                                                                                                                                             |        |     |          |             |
|        | (b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. |        |     |          |             |
|        | (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.                                                                                                                                                                                                                                                                                                                                                        |        |     |          |             |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                 |        |     |          |                     |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|----------|---------------------|
|      | (d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. |        |     |          |                     |
|      | (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. "All above operations to be done in order and as directed and specified by the Engineer-in-Charge :                                                                                                                                                                              |        |     |          |                     |
| 33.1 | With average thickness of 120 mm and minimum thickness at khurra as 65 mm.                                                                                                                                                                                                                                                                                                                                      | 265.00 | sqm | 1,684.60 | 4,46,419.00         |
|      | <b>Total=</b>                                                                                                                                                                                                                                                                                                                                                                                                   |        |     |          | <b>62,76,714.00</b> |
|      | Modified Estimate cost after using correction factor on DSR 2023 on account of GST @ 0.973                                                                                                                                                                                                                                                                                                                      |        |     |          | 61,07,243.00        |
|      | Add Cost Index @ 5 % on DSR-2023                                                                                                                                                                                                                                                                                                                                                                                |        |     |          | 3,05,362.00         |
|      | <b>Total=</b>                                                                                                                                                                                                                                                                                                                                                                                                   |        |     |          | <b>64,12,605.00</b> |
| 34   | Providing and fixing acrylic sports coating system - 8-Layer system (Primer + 2xresurface + 3x cushion coats + 2x colour coats + line marking) Applied as successive coats over a prepared, cured base. The work shall be carried out as per manufacturer's installation procedure and as per direction of Engineer-in-charge.                                                                                  | 352.00 | sqm | 1,374.60 | 4,83,859.00         |
| 35   | Credit for taking away old/rusted dismantled material such as :-                                                                                                                                                                                                                                                                                                                                                |        |     |          |                     |
| 35.1 | G.I. C.I. of MS pipes fittings and section etc                                                                                                                                                                                                                                                                                                                                                                  | 280.00 | kg  | -25.00   | -7000.00            |
| 35.2 | Aluminium, fittings and section etc.                                                                                                                                                                                                                                                                                                                                                                            | 70.00  | kg  | -130.00  | -9100.00            |
|      | <b>Total=</b>                                                                                                                                                                                                                                                                                                                                                                                                   |        |     |          | <b>68,80,364.00</b> |

**Executive Engineer  
Ghaziabad Division - II,**