सत्यमेव जयते

Tender Reference Number
: 002/SE /AIIMS BLS/2026-27

PRESS NOTICE

AIIMS BILASPUR H.P. ENGINEERING DEPARTMENT

NOTICE INVITING e-TENDERS

The Superintending Engineer, AIIMS Bilaspur H.P. on behalf of the Executive Director ,AIIMS Bilaspur, HP invites online item rate bids in Two Bid System from the approved and eligible CPWD registered contractors' class in Building and Road category or approved & eligible contractors of MES, State PWD's, BRO, Departments'/construction wings of Railways, Defence, Environment & Forests , Information & Broadcasting & Department of Posts and space etc. who satisfy the criteria of execution of similar work for the following work:

Name of Work **:** Replacement of False Ceiling Tiles with Anti-Microbial Biosafe Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh.

NIT No : 002/SE/AIIMS BLS/2026-27

Estimated Cost : ₹ 59,78,606/-.

Earnest Money : ₹ 1,19,572/-

Security Deposit : 2.5% of the bidded amount /-

Time Period for completion: 90 days.

Last date and time of submission of Bid is as per CPPP.

The bid forms and other details can be obtained from the website **https://eprocure.gov.in**

Superintending Engineer,
AIIMS Bilaspur, H.P.

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING

1. The Superintending Engineer, AIIMS Bilaspur, H.P. on behalf of the Executive Director, AIIMS Bilaspur, HP invites online item rate bids from approved and eligible CPWD registered contractors' class in Buildings and Road category and/or approved & eligible contractors of MES, State PWD's, BRO, Departments'/Construction wings of Railways, Defence, Environment & Forests, Information & Broadcasting & Department of Posts and space etc. for the work:

Sr. No.	NIT No.	Name of work & Location	Estimated cost put to tender	Earnest Money	Period of Completion	Last date & time of submission of online bid, submission documents as specified in the NIT.	Last date of submission of all the scanned and uploaded documents as specified in the NIT in physical form by the lowest bidder	Time & date of opening of online tender
1	2	3	4	5	6	7	8	9
1	002/SE/AIIMS BLS/2026-27	Replacement of False Ceiling Tiles with Anti-Microbial Biosafe Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh.	**₹ 59,78,606/-**	**₹ 1,19,572 /-**	**3 months**	As per CPPP	Within one week after the date of opening of financial bid	As per CPPP

2. The bid document consisting of drawings, plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen from website https://eprocure.gov.in free of cost.

3. The enlistment of the contractors should be valid on the last date of submission of bids.

4. In case only the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

5. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online tendering process as per details available on the website. The intending bidder must have valid Class-III Digital Signature to submit the bid.

6. Earnest Money can be paid in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque in or Deposit at call receipt or Fixed Deposit Receipts (drawn in favour of Miscellaneous Fund, AIIMS Bilaspur, HP along with Bank Guarantee of any Scheduled Bank wherever applicable.

7. The intending bidder has to fill all the details such as Banker's name, Demand Draft/ Fixed Deposit Receipt/ Pay Order/ Banker's Cheque/ Bank Guarantee number, amount and date to the e-tendering website within the period of tender submission.

8. The amount of EMD can be paid by multiple Demand Draft/Pay Order / Banker's Cheque / Deposit at call receipt / Fixed Deposit Receipts along with multiple Bank Guarantee of any Scheduled Bank if EMD is also acceptable in the form of Bank Guarantee.

9. Interested contractor who wish to participate in the bid has also to make following payments in the form of Demand Draft/Pay order or Banker`s Cheque of any Scheduled Bank within the period of tender submission÷

10. The bid submitted shall become invalid & shall be considered as rejected if,

    i) The bidder is found ineligible.

    ii) The bidder does not upload Treasury Challan/Demand Draft/Pay Order or Banker's Cheque/Deposit at Call Receipt/FDR/Bank Guarantee of any Scheduled Bank against EMD and does not deposit original EMD within prescribed date and time.

    iii) The bidder does not upload all documents (including GST registration/undertaking as applicable/relevant) and as stipulated in the bid document. (e.g. Valid Enlistment Order of the CPWD registered Contractor in appropriate class of composite (B&R) category or approved & eligible contractors of MES, State PWD's, BRO, Departments' construction wings of Railways, Defence, Environment & Forests, Information & Broadcasting & Department of Posts and space etc.)

    iv) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of tender opening authority.

    v) If a tenderer quotes <u>Nil rates</u> 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 tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

11. List of Documents to be scanned and uploaded within the period of Tender submission:

    (i) Treasury Challan/Demand Draft/Pay Order or Banker's Cheque/Deposit at Call Receipt/FDR/Bank Guarantee of any Scheduled Bank against EMD

    (ii) Valid Enlistment Order of the CPWD registered Contractor in appropriate class of composite (B&R) category or approved & eligible contractors of MES, State PWD's, BRO, Departments'/construction wings of Railways, Defence, Environment & Forests, Information & Broadcasting & Department of Posts and space etc.

    (iii) Certificate of Registration for GST, if already obtained by the bidder. If the bidder has not obtained GST registration as applicable, then he shall scan and upload following undertaking along with bid documents <u>"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 AIIMS Bilaspur H.P, 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</u>

and/or for any action taken by AIIMS Bilaspur H.P or GST department in this regard"

12. The following conditions which already forms part of the tender document are specially brought to the notice of all intending bidders for compliance while filling the tender. They are requested to comply following instructions:

a) After submission of the bid the contractor can re-submit revised bid any number of times but before last date and time of submission of bid as notified.

b) 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 date and time of submission of bid as notified.

c) In case of composite tenders, the contractor submitting the tender should read all the three Parts of the tender viz. Part-A, B & C, which are containing schedule of quantities, additional & special conditions, additional specifications, particular specification and other terms and conditions given in the NIT and drawings for major as well as minor component of work. Details of these parts are summarized as under:

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

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

- Part C: - Schedule of quantities applicable to major and minor component of the work.

d) Tenders with any condition including that of conditional rebates shall be rejected forthwith.

e) GST and Labour-Cess etc. as applicable shall be borne by the contractor himself. The contractor shall quote his rates considering all such taxes and hence their quoted rates should be inclusive of all the tax components.

f) It will be obligatory on part of the Contractor/ Bidder to tender for and sign the tender documents for all the component parts. The institute reserves right to accept tender in full or in part without assigning any reasons.

g) The intending bidder must read the terms and conditions of Form-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

h) The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of opening of bid is extended, the enlistment of contractor should be valid on the original date of opening of tender.

13. On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.

14. Contractor can upload documents in the form of JPG format and PDF format.

15. 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).

16 The required documents meeting the criteria to qualify as "approved and eligible contractors of CPWD or approved & eligible contractors of MES, State PWD's, BRO, Departments'/ construction wings of Railways, Defence, Environment & Forests, Information & Broadcasting & Department of Posts and space etc" along with other documents as mentioned under para "List of Documents to be scanned and uploaded within the period of bid submission" below, as uploaded by the agency and hard copies received subsequently shall be checked. The financial bid of only those agencies shall be opened who are found to be eligible agencies, as per this NIT.

17 The institute reserves the right to reject any prospective bid without assigning any reason.

18. Information and instructions for contractors for e-tendering forming part of NIT and to be posted on website.

(i) Information and instructions for contractors will form part of NIT and to be uploaded on website.
(ii) The intending bidder must have Class-III Digital Signature to submit the bid.

19. The online percentage rate (s) must be quoted in decimal coinage. Amount shall be calculated and rounded in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.

20. The successful bidder shall be required to submit a Performance Guarantee of
a). **5% (Five percent)** of the bidded amount or estimated amount whichever is higher.
b). Where the tendered amount is less than eighty percent (80%) of estimated cost put to tender (ECPT), Performance Guarantee, in addition to requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of ECPT and tendered amount within a period of issue of letter of acceptance as specified in schedule 'F'.

21. GST on materials as applicable shall be paid by the contractor himself. The contractor shall quote his rates considering all such taxes.

22. Structural design and drawings, as well as services designs and drawings (as applicable) shall be submitted by bidder to Engineer in-Charge for issuance.

23. Intending bidder may submit physical mile stone on the basis of their resources and methodology at the time of tendering as indicated in the "Schedule F", otherwise it will be assumed that agency is agreeable to mile stones mentioned in the table.

24. Intending bidder may give detailed activities/programme for each mile stone fixed in the tender document while submitting the tender.

25. Recovery rates for less use of materials beyond permissible limits is given in Schedule 'F' of Part-A & also for excess use of departmentally issued material.
26. Contractors who fulfill the following requirements shall be eligible to apply.

(i) Joint ventures are not accepted.

(ii) Should have satisfactorily completed the similar works as mentioned below during the last Seven (7) years ending last day of the month previous to the one in which tenders are invited.

a. **Three similar works** each costing not less than **₹ 23.91 lakh**s, or
b. **Two similar works** each costing not less than **₹ 29.89 lakhs** or
c. **One similar work** costing not less than **₹ 47.83 lakh**.

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

(iii) Should have had Average Annual Financial Turnover of ₹ **17.94 lakhs** on construction works during the last three years ending 31st March 2025 (Scanned copy of certificate from CA with Unique Document Identification Number (UDIN) to be uploaded). The value of annual turnover figures shall be brought to the current value by enhancing the actual turnover figures at simple rate of 7% per annum. (OM No. DG/SOP 2022/07 dated 09.11.2022)

(iv) Should have financial Soundness as per appendix "A" (in ₹)

a. Solvent upto **₹ 40.00 Lakhs**

Or

Financially sound for engagement up **₹ 100.00 Lakh**

b. Working capital **not less than ₹ 10.00 lakh**

(v) Should have bidding capacity equal to or more than the estimated cost of the work put to tender **.**The bidding capacity shall be worked out by the following formula:

Bidding Capacity = {[AxNx1.5]-B}, Where,

A = Maximum turnover in construction / maintenance works executed in any one year during the last seven years taking into account the completed as well as works in progress. The value of completed works shall be brought to current costing level by enhancing at a simple rate of 7% per annum.

N = Number of years prescribed for completion of work for which bids have been invited.

B = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bids have been invited.

27. "Similar work means work of Maintenance/ Repair/ Renovation/ Modifications/ Retrofitting/ Rehabilitation/ New Construction in respect of all types of buildings (e.g. Residential, Industrial, Commercial, Institutions, Hospitals, School, Colleges, Public Buildings etc.) comprising of various Civil and MEP relevant items of work matching with the work requirements and criteria"

Superintending Engineer,
AIIMS Bilaspur, H.P.

1. The Superintending Engineer, AIIMS Bilaspur H.P. on behalf of the Executive Director ,AIIMS Bilaspur, HP invites online item rate bids from the approved and eligible CPWD registered contractors' class in Building and Road category or approved & eligible contractors of MES, State PWD's, BRO, Departments'/construction wings of Railways, Defence, Environment & Forests , Information & Broadcasting & Department of Posts and space etc. for the work of Replacement of False Ceiling Tiles with Anti-Microbial Biosafe Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh.

The enlistment of the contractors should be valid on the last submission of bids. In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

1.1 The work is estimated to cost **₹ 59,78,606/-.** This estimate, however, is given merely as a rough guide.

1.1.1 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 bidder on the 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 **3 month(s)** from the date of start as defined in Schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

4. The site for the work is available.

5. The bid document consisting of relevant building plans, drawings, 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–**2023 (with amendment)** can be seen from website **https://eprocure.gov.in** free of cost.

1. After submission of the bid the contractor can re-submit revised bid any number of times but before last date and time of submission of bid as notified.

2. 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 date and time of submission of bid as notified.

3. Earnest Money **₹ 119572/-** in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque or Deposit at call receipt or Fixed Deposit Receipt (**drawn in favour of Miscellaneous Fund, AIIMS Bilaspur, HP**) shall be scanned and uploaded to the e-tendering website within the period of bid submission.

4. Copy of Enlistment Order and certificate of work experience along with respective completion certificate and other documents as specified in the press notice shall be scanned and uploaded to the e-Tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in press

notice shall have to be submitted by the lowest bidder only within a week physically in the office of tender opening authority.

5. Online bid documents submitted by intending bidders shall be opened only of those bidders, whose EMD is received before Tender closing date & Time in the EMD Drop box of office of Executive Er. (C), AIIMS Bilaspur, HP and other documents scanned and uploaded are found in order**.**

11. The bid submitted shall become invalid if,

i) The bidder is found ineligible.

ii) The bidder does not upload Treasury Challan/Demand Draft/Pay Order or Banker's Cheque/Deposit at Call Receipt/FDR/Bank Guarantee of any Scheduled Bank against EMD and does not deposit original EMD within prescribed date and time.

iii) The bidder does not upload all documents (including GST registration/undertaking as applicable/relevant) and as stipulated in the bid document. (e.g. Valid Enlistment Order of the CPWD registered Contractor in appropriate class of composite (B&R) category or approved & eligible contractors of MES, State PWD's, BRO, Departments' construction wings of Railways, Defence, Environment & Forests, Information & Broadcasting & Department of Posts and space etc.)

iv) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of tender opening authority.

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

12. The successful bidder shall be required to submit a Performance Guarantee of a)**5% (Five percent)** of the bidded amount or estimated amount whichever is higher. b) Where the tendered amount is less than eighty percent (80%) of estimated cost put to tender (ECPT), Performance Guarantee, in addition to requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of ECPT and tendered amount within a period of issue of letter of acceptance as specified in schedule 'F' within the period specified in Schedule F. This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any Scheduled Bank or Institute Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. The contractor shall not be eligible for further tender for a period of one year if after opening of the tender, the contractor withdraws or modify bid during period of validity of tender or after award of work fail to sign the contract or submit performance guarantee before deadline defined in bid document.

13. Intending Bidders are advised to inspect and examine the actual work location, 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 bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent upon 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 Institute (if applicable) and local conditions and other factors having a bearing on the execution of the work. In addition to the above, bidders are advised to see for themselves the bridges existing on the approach passage to the site for assessing the position with regard to carriage of building materials and T&P. Nothing extra shall be payable to the successful bidder for any type of existing restricted conditions with regard to the above.

14. The competent authority or the Executive Director, AIIMS Bilaspur, HP does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

15. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.

16. The competent authority or the Executive Director, AIIMS Bilaspur, HP 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 quoted rates.

17. GST or any other tax applicable in respect of inputs procured by the contractor for this contract shall be payable by the Contractor and the Institute (i.e. AIIMS Bilaspur H.P) will not entertain any claim whatsoever in respect of the same. However, component of GST at time of supply of service (as provided in CGST Act 2017) provided by the contract shall be varied if different from that applicable on the last date of receipt of tender including extension if any.

18. The contractor shall not be permitted to bid for works in the office 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 AIIMS Bilaspur, HP or in the Ministry of Health & Family Welfare. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

19. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Institute (i.e. AIIMS Bilaspur H.P.) is allowed to work as a contractor for a period of one year after his retirement from the iinstitute service, without prior permission of the competent Authority i.e. Executive Director, AIIMS Bilaspur, HP 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 Institute of India as aforesaid before submission of the bid or engagement in the contractor's service.

20. The bid for the works shall remain open for acceptance for a period of **Seventy-Five (75)** days from the date of opening of technical bid. If any bidders withdraw his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the Institute shall, without prejudice to any other right or remedy, be at liberty to forfeit 100% of the said earnest money as aforesaid. Further, the bidders shall not be allowed to participate in the retendering process of the work.

21. 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) Form GCC 2023, CPWD Form 7 modified and amended up-to last date of online submission of bids.

For & on behalf of the the Executive Director, AIIMS Bilaspur, HP.

Signature .....

Executive Er.
Engineering Department
AIIMS Bilaspur H.P.

CHECK LIST FOR CONTRACTORS FOR SUBMISSION OF TENDERS ONLINE:

1. TENDER TO BE WITNESSED AT REELVANT PAGE OF TENDERED DOCUMENTS AT THE TIME OF DRAWING AGREEMENT WITH THE SUCCESSFUL BIDDER.

2. THE TENDER / TENDERS CONTAINING CONDITIONS CONTRARY TO THOSE SPECIFIED IN THIS DOCUMENT SHALL BE SUMMARILY REJECTED.

3. IN SCHEDULE OF QUANTITIES APPENDED TO THE TENDER DOCUMENTS AT RELEVANT SECTION OF THE SUBJECT TENDER WORK, THE RATES MUST BE FILLED IN PERCENTAGE BELOW OR ABOVE ON THE ESTIMATED COST PUT TO TENDER.

4. THE CONTRACTOR(S) SHALL QUOTE THE RATES KEEPING IN MIND, GENERAL CONDITIONS OF CONTRACT OF CPWD WORKS-2023 AS CORRECTED AND AMENDED UPTO DATE, SPECIAL CONDITIONS AND PARTICULAR SPECIFICATIONS, ANNEXURES ETC.

5. CRITERIA FOR ENGAGEMENT OF SPECIALIZED AGENCIES HAVE BEEN LAID AT TENDER/FORM WHICH MAY BE NOTED.

6. THE CONTRACTOR(S) SHALL QUOTE THE RATE OF TMT REINFORCEMENT BARS Fe 500D KEEPING IN MIND RATES OF PRIMARY PRODUCERS ONLY.

7. SITE TEST REGISTERS & MAS REGISTERS TO BE MAINTAINED BY CONTRACTOR: - ALL TEST REGISTERS AND MATERIAL AT SITE REGISTERS SHALL BE MAINTAINED BY THE CONTRACTOR WHICH WILL BE REVIEWED BY THE OFFICERS OF AIIMS BILASPUR H.P AT REGULAR INTERVALS.

PROFORMA FOR EARNEST MONEY DEPOSIT DECLARATION

Whereas, I/We ,… ……..(name of agency) have submitted bids for……
……
…… ..(name of work).

I/We, hereby submit following declaration in lieu of submitting Earnest Money Deposit.

1) If, after the opening of tender, I/We withdraw or modify my/our bid during the period of validity of tender (including extended validity of tender) specified in the tender documents.

or

2) If, after the opening of tender, I/We fail to sign the contract, or to submit performance guarantee before the deadline in the tender documents .

I/we shall be suspended for one year and shall not be eligible to bid for AIIMS Bilaspur H.P. tenders from date of issue of suspension order.

Signature of the contractor (s)

FORM NO.-7 FOR E-TENDERING	AIIMS Bilaspur, HP

Central Autonomous Institute under MoHFW AIIMS Bilaspur, HP

STATE:	H.P	CIRCLE:	Engineering Department
BRANCH:	Civil	DIVISION:	Civil
REGION	H.P	SUB-DIV.:	-----

ONLINE ITEM RATE TENDER & CONTRACT FOR WORKS

(A) Tender for the work of : -

Name of Work **:** Replacement of False Ceiling Tiles with Anti-Microbial Biosafe Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh.

(i) To be submitted online by date prescribed on CPPP through website https://eprocure.gov.in to Superintending Engineer, AIIMS Bilaspur, HP.

(ii) To be opened through online in presence of tenderers who may be present in the office of Superintending Engineer , AIIMS Bilaspur, HP.

ON NON-JUDICIAL STAMP PAPER OF MINIMUM Rs. 100

(Guarantee offered by Bank in connection with the execution of contracts)

FORM OF BANK GUARANTEE

(For Earnest Money Deposit/Performance Guarantee/Security Deposit/ Mobilization Advance)

1. Whereas the Executive Er. , Engineering Department AIIMS Bilaspur ,HP on behalf of the the Executive Director, AIIMS Bilaspur, HP (hereinafter called "The Institute") has invited bids under…… (NIT number) ……dated for Replacement of False Ceiling Tiles with Anti-Microbial Biosafe Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh.. (name of work). The Institute has further agreed to accept **irrevocable Bank Guarantee for Rs …… (Rupees ……only) valid *up to* …… (date)* …….. as Earnest Money Deposit from ……**
(name and address of contractor) …… (hereinafter called "the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.

OR**

Whereas the Executive Er., Engineering Department AIIMS Bilaspur ,HP on behalf of the the Executive Director,AIIMS Bilaspur, HP (hereinafter called "The Institute") has entered into an agreement bearing number …… with…… (name and address of the contractor) (hereinafter called "the Contractor") for execution of work Supply & Installation of Compactors at Administration & Hospital Block of AIIMS Bilaspur H.P. (name of work).The Institute has further agreed to accept an irrevocable Bank Guarantee for Rs …… (Rupees…… only) valid ***up-to……*** (date) as **Performance Guarantee/Security Deposit/Mobilization Advance** from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We, …… (indicate the name of the bank)…….(herein after referred to as "the Bank") hereby undertake to pay to the Institute an amount not exceeding Rs …….……. (Rupees …… only) on demand by the Institute 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 Institute stating that the amount claimed is required to meet the recoveries due or likely to be 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 Institute any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our

liability for payment there under and the Contractor shall have no claim against us for making such payment.

5. We,…… (indicate the name of the bank) ……., further agree that the Institute 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 postpone for any time or from time to time any of the powers exercisable by the Institute against the said contractor and to forbear or enforce any of the terms and condition related 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 Institute or any indulgence by the Institute 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 Institute as 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 Institute may have in relation in the contractor's liabilities.

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

8. We,…… (indicate the name of the Bank)……. Undertake not to revoke this ***guarantee*** expect with the consent of the Institute in writing.

9. The Bank Guarantee shall be valid ***up to*** ……unless extended on demand by the Institute Notwithstanding anything mentioned above, our liabilities against the ***guarantee*** is restricted to Rs…….. (Rupees……Only) and unless a claim in writing is lodged with us within the date of expiry of extended date of expiry of this ***guarantee***, all our liabilities under this ***guarantee*** shall stand discharged.

Date ……..

Witnesses:

1. Signature ……..
   Name and address

Authorized Signatory
Name
Designation
Staff Code No.
Bank Seal

2. Signature ……..
   Name and address

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

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

Annexure-II

AFFIDAVIT

I/We have submitted a bank guarantee for the work of Replacement of False Ceiling Tiles with Anti-Microbial Biosafe Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh. **(Name of work) Agreement No._____ Dated _____ from_____ (Name of the Bank with full address**) to the Executive Er. Civil,AIIMS Bilaspur H.P, Engineering Department with a view to seek exemption from payment of performance guarantee in cash. This Bank guarantee expires on **_____.**

I / We undertake to keep the validity of the bank guarantee intact by getting it extended from time to time at my/our own initiative up to a period of _____ months after the recorded date of completion of the work or as directed by the Engineer in charge.

I / We also indemnify the Institute against any losses arising out of non-encasement of the bank guarantee if any.

(Deponent)

Signature of Contractor

Note : The affidavit is to be given by the Executants before a first-class Magistrate.

FORM OF SOLVENCY CERTIFICATE FROM THE NATIONALISED/ SCHEDULED BANK

This is certified that to the best of our knowledge and information Shri/Smt……..having address……., a customer of our bank are/is respectable and can be considered solvent upto Rs……. (Rupees ……..)/financially sound for any engagement upto Rs……. (Rupees ……..). This certificate is issued without any guarantee or responsibility on the bank or any of the officer(s).

(Signature)
Name, Designation and Personal
Code No of Signatory& Seal of bank
Complete Postal Address,
Telephone No, e-mail ID of Branch

FORM OF WORKING CAPITAL CERTIFICATE FROM NATIONALIZED/ SCHEDULED BANK

This is certified that Shri/Smt..……..having address……has /have been maintaining a Saving Bank Account /Current Account/ Fixed Deposit Account with this Branch of bank since……and the firm is having working capital of approximately Rs …… and/ or the firm is enjoying overdraft/credit facilities upto limit of Rs ……. This certificate is issued without any guarantee or responsibility on the bank of any or the officer(s).

(Signature)
Name, Designation and Personal
Code No of signatory& seal of bank

Note: In case of partnership firm, certificate shall include names of all partners as recorded with the bank.

Calculation of bidding capacity
Details of Existing Commitments and ongoing works.

S. No.	Name of work/ project and location	Owner or sponsoring organization	Contract value	Date of commencement as per contract	Stipulated date of completion	Up to date percentage progress of work	Remaining work in percentage (100- column 7)	Existing commitment Column 4 x Column 8 /100	Name and address/ telephone number of officers to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10	11

Total (B) =

Maximum turnover in last seven years = Rs……

Updated value of turnover (A) = Rs……

No. of years (N) = ……..

Bidding Capacity= {[AxNx1.5]-B} =

Certificate:

I certify that all the awarded and ongoing works have been included in the above list.

Duly Certified by Bidder

T E N D E R

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 and 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 the Executive Director,AIIMS Bilaspur, HP within the time specified in Schedule 'F', Schedule of Quantities and in accordance/ in all respects with the Specifications, Designs, Drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of Contract and with such materials as are provided for, by and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for **(75) seventy-five days** from the date of opening of tender and not to make any modifications in its terms and conditions.

A sum of **₹ 119572/-**is hereby forwarded in Cash/Receipt Treasury Challan / Deposit at Call Receipt of a Scheduled Bank/ FDR of a Scheduled Bank/ Demand Draft of a Scheduled Bank/Bank guarantee issued by a schedule bank as earnest money. If I/we fail to furnish the prescribed Performance Guarantee within prescribed period, I/we agree that the said the Executive Director, AIIMS Bilaspur, HP or his successor 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 the work as specified. I/we agree that the Executive Director , AIIMS Bilaspur , HP or his successors in office shall, without prejudice to any other right or remedy available in law, be at liberty to forfeit the said Performance Guarantee absolutely, otherwise 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 therein and to carry out such deviations as may be ordered, up-to maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 & 12.3 of the tender form.

Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work for next 1 year.

I/We undertake and confirm that eligible similar work(s) has/ have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of the institute Engineering Department, then I/we shall be debarred for tendering in AIIMS Bilaspur, HP 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 Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents, drawings and other records connected with the work as Secret/Confidential documents and shall not communicate information/derived therefrom to any person other than a person to whom I/we am/are may authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated: Signature of Contractor .....

Witness: - . Postal Address: - .....

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

Address: -

Occupation: -

Telephone No.

Fax:-

E-Mail:-

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 Executive Director, AIIMS Bilaspur ,HP for a sum of Rs..... (Rupees ....)

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

i)
ii)
iii)
iv)
v)
vi)

Dated: - .....

For & on behalf of the
Executive Director,
AIIMS Bilaspur, HP.

Signature …….

Integrity Pact

Between

All India Institute of Medical Sciences, Bilaspur hereinafter, referred to as "AIIMS Bilaspur", and

….....Hereinafter referred to as "The Bidder(s)/Contractor(s)"

Preamble:

AIIMS Bilaspur values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparencies in its relations with its Bidder(s) and / or Contractor(s). In order to achieve this goal, AIIMS Bilaspur will appoint Independent External Monitor (IEMs) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section - 1 Commitments of AIIMS Bilaspur

1. AIIMS Bilaspur commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
   a) No employee of AIIMS Bilaspur, personally or through family members, will in connection with the tender for, or the execution of a contract demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.

   b) AIIMS Bilaspur will, during the tender process treat to all Bidder(s) with equity and reason. The AIIMS Bilaspur will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

   c) The AIIMS Bilaspur will exclude from the process all known prejudiced persons.

2. If AIIMS Bilaspur obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, AIIMS Bilaspur will inform its Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section - 2 Commitments of the Bidder(s)/Contractor(s)

1. The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. The Bidder(s)/Contractor(s) commits himself to observe the following principles during his participation in the tender process and during the contract execution.

   a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of AIIMS Bilaspur's employees involved in the tender process or the execution of the contract or any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract. The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any illegal agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

   b) The Bidder(s)/Contractor(s) will not commit any criminal offence under the relevant Anti-Corruption Laws of India; further the Bidder(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by AIIMS Bilaspur as part of the business relationship, regarding plans technical proposals and business details, including information contained or transmitted electronically.

   c) The Bidder(s)/Contractor(s) of foreign origin shall disclose the name & address of the Agents/representatives in India, if any. Similarly, the Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the

payment made to the Indian agent/representative have to be in Indian Rupees only.

d) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

e) The Bidder(s)/Contractor(s) who have signed the Integrity Pact shall not approach the courts while representing the matter to IEMs and shall wait for their decision in the matter.

2. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section - 3 Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, AIIMS Bilaspur is entitled to disqualify the Bidder(s)/Contractor(s) from the tender processor take action as per rule & regulations.

Section - 4 Compensation for Damages

1. If AIIMS Bilaspur has disqualified the Bidder(s) from the tender process prior to the award according to Section 3 above, The AIIMS Bilaspur is entitled to demand and recover the damage equivalent to Earnest Money Deposit /Bid security.

2. If AIIMS Bilaspur has terminated the contract according to Section 3, or if AIIMS Bilaspur is entitled to terminate the contract according to Section 3, AIIMS Bilaspur shall be entitled to demand and recover from the Bidder(s) liquidated damages of the Contract value or the amount equivalent to performance Bank Guarantee.

Section - 5 Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti- corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.

2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken the contract, if already awarded, can be terminated.

Section - 6 Equal treatment of all Bidder (s)/Contractor (s)

In case of Sub-contracting, the AIIMS Bilaspur Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor.

1. The AIIMS Bilaspur will enter into agreements with identical conditions as this one with all Bidders and Contractors.
2. The AIIMS Bilaspur will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section - 7 Criminal Charges against violating Bidder (s)/Contractor (s)/Subcontractors (s)

If the AIIMS Bilaspur obtains knowledge of conduct of a Bidder, Contractor or subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the AIIMS Bilaspur has substantive suspicion in this regard, the AIIMS Bilaspur will inform the same to the Chief Vigilance Officer.

Section - 8 Independent External Monitor

1. AIIMS Bilaspur has appointed competent and credible Independent External Monitors (hereinafter referred to as monitors) for this Pact as per the recommendations of Central Vigilance Commission. The particulars of Independent External Monitors are as under: -

S. No	Name of IEM	Email ID	Address
1	**Shri Mukesh Mittal**	**mumittal@hotmail.com**	**Z-63, Tatvam Village, Sector 48, Gurgaon – 122018**
2	**Vice Admiral Kiran Manikrao Deshmukh (Retd.)**	**kiran2610@hotmail.com**	**Villa No. 30A, Jal Vayu Villas, Jai Kisan Club Road, Opp. Airways School, Sancaole, Zuarinagar, Goa – 403726**

2. The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all contract documents, whenever required. It will be obligatory for him / her to treat the information and documents of the Bidders / Contractors as confidential. He/ she reports to the Executive Director AIIMS Bilaspur.

3. The Bidder (s) Contractor (s) accepts that the Monitor has the right to access, without restriction to all Project documentation of the AIIMS Bilaspur including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Subcontractors.

4. The Monitor is under contractual obligation to treat the information and documents of the Bidder (s)/ Contractor(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on Non-Disclosure of Confidential Information and of 'Absence of conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform Executive Director AIIMS Bilaspur and recuse himself/herself from that case.

5. The AIIMS Bilaspur shall provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

6. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/she will so inform the Executive Director AIIMS Bilaspur and request the Management to discontinue or take corrective action, or the take other relevant action. The monitor can in the regard submit non-
binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they actin a specific manner, refrain from action or tolerate action.

7. The Monitor shall submit a written report to the Executive Director AIIMS Bilaspur, within 8 to 10 weeks from the date of reference or intimation to him by the AIIMS Bilaspur and, should the occasion arise, submit proposals for correcting problematic situations.

8. If the Monitor has reported to the Executive Director AIIMS Bilaspur, a substantiated suspicion of an offence under relevant IPC/PC Act, and the Executive Director, AIIMS Bilaspur has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

9. The word Monitor, would include both singular and plural.

Section - 9 Pact Duration

1. This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

   If any claim is made / lodged during this time the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Executive Director of AIIMS Bilaspur.

Section - 10 Other Provisions

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the AIIMS Bilaspur.
2. Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. Issues like comprehensive Warranty / Guarantee etc. shall be outside the purview of IEMs.
6. In the event of any contradictions between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

For and on behalf of the AIIMS Bilaspur	For & on behalf of Bidder/Contractor
Office Seal	Office Seal
Place	Witness-1:
Date	Witness-2:

SCHEDULE 'A' TO 'F'

SCHEDULE 'A'

Schedule of Quantities: , Page Nos: 81

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

Sr. No.	Description of item	Quantity	Rate in figures & words	Place of at which the material will issue be charged to the contractor
(1)	(2)	(3)	(4)	(1)
----Nil----				

SCHEDULE 'C'

Tools and plants to be hired to the contractor

Sr. NO.	DESCRIPTION	HIRE CHARGES	PLACE OF ISSUE PER DAY
(1)	(2)	(3)	(4)
----Nil----			

SCHEDULE 'D'

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

A) Civil Works:

1. Special condition/Particular Specifications for Civil work : Pages-32 to 75
2. Preferred make for Civil & NIT work : Pages- 77 to 80

SCHEDULE 'E'

Reference to General Conditions of Contract. (GCC EPC Projects 2022/ GCC Maintenance works 2023/ GCC Construction Works 2023.	Applicable GCC is GCC Construction Works 2023 & Maintenance works 2023 as modified and corrected up to previous day of the last date of submission of the tender.

1.1 Name of Work : Replacement of False Ceiling Tiles with Anti-Microbial Biosafe Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh.

1.2 Estimated Cost of work : ₹ 59,78,606/-

1.3 Earnest Money : ₹ 119572/-

1.4. Performance Guarantee : **(a) 5% of Tender 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.**

1.5 Security Deposit : 2.5% of the tendered value.

1.6. Time for completion : 3 months.

SCHEDULE 'F':- General Rules & Directions:-

	Tender Inviting Authority	:	Superintending Engineer, AIIMS Bilaspur, H.P.
	Definitions		
2 (i)	Engineer-In-Charge	:	Executive Engineer, Civil, AIIMS Bilaspur, HP.
2 (ii)	Accepting Authority	:	Executive Engineer, AIIMS Bilaspur, HP.
2 (iii)	Percentage on cost of materials and labour to cover all overheads and profits.	:	15%
2 (iv)	Standard Schedule of Rates	:	Delhi Schedule of Rates 2023 with up-to-date correction slips (Civil) issued up to last date of receipt of tender through E-tendering & Market Rates.
2 (v)	Department	:	AIIMS Bilaspur, HP, Engineering Department.
2 (vi)	Standard CPWD Contract	:	Form Maintenance works 2023 as modified and corrected up to previous day of the last date of submission of the tender, CPWD Form 7/8 modified and amended up-to last date of online submission of bids.
Clause-1			
(i)	Time allowed for submission of performance guarantee, Program 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 letter of acceptance.		**07** days
(ii)	Maximum allowable extension with late fee @ **0.1 % per day** of performance guarantee amount beyond the period as provided in		**4** days (8th day to 11th day)

	(i) above.		
Clause-2:-	Authority for fixing compensation under clause-2.		SE ,AIIMS Bilaspur ,HP or his successor.
Clause-2 A	Whether clause-2A shall be applicable.		Not Applicable
Clause-5:-			
(i)	Number of days from the date of issue of letter of acceptance for reckoning date of start	**:**	11th day.
ii)	Mile Stone.	**:**	Table of Milestones as given in NIT
(iii)	Time allowed for execution of work	**:**	12 months.
Authority to decide			
(i)	Extension of time for completion of work.	**:**	Superintending Engineer, AIIMS Bilaspur ,HP.
(ii)	Re-scheduling of Mile stone	**:**	Superintending Engineer, AIIMS Bilaspur ,HP.
(iii)	Shifting of date of start in case of delay in handing over of site.	**:**	Superintending Engineer, AIIMS Bilaspur ,HP.
Clause-6:-	Computerized Measurement Book/ Electronic Measurement Book/Physical MB (CMB/EMB /PMB).		CMB
Clause-7:-	Gross work to be done together with net payment / adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.		₹ 5 Lakhs.
Clause-7A:-	Regarding applicability of labour laws:- Related to Labour licensee, registration of contractor with EPFO, ESIC and BOCW welfare board i/c Provident Fund (Whether clause 7A shall be applicable).		**Yes**
	No running account bill shall be paid in the work till the applicable labour licenses, registration with EPFO, ESIC, BOCW welfare board including Provident Fund Code No. whatever applicable are submitted by the contractor to the Engineer-in-charge.		
Clause-10A:-	List of testing equipment to be provided by the contractor at site		As mentioned in Tender Document.

	lab.		
Clause-10-B (ii).	Whether clause 10-B (ii) shall be applicable		No
Clause-10C:-	Component of labour expressed as percent of total value of work in DSR items.		25%.
Schedule of component of other Materials, Labour POL etc. for Price Escalation:-			
	Component of civil expressed as percent of total value of work.		Not Applicable
	Component of labour expressed as percent of total value of work.		Not Applicable
	Component of P.O.L expressed as percent of total value of work.		Not Applicable
Clause 10CC:-	Clause 10CC to be applicable in contracts with stipulated period of completion **exceeding 12 months**		Not Applicable
Clause-11:-	(i)Specifications to be followed for Execution of work (Civil)	C.P.W.D. Specifications 2019 Vol. I & II with up-to-date correction slips (Here in after called CPWD specification) and as per manufacture specification i/c special conditions & particular specifications attached in NIT.	
	HVAC	C.P.W.D. Specifications 2017	
	ELECTRICAL	C.P.W.D. Specifications (Internal & External-2023)	

Clause-12:- Applicable as per Authority of D.G.CPWD for Original works (including Modifications, Amendments issued on date) & DG/CON/Maintenance 2023/03 dated 18/12/2023 for maintenance/repair work & as per modification issued by Authority of D.G. CPWD vide O.M. No. DG/CON/Construction 2023/03 dated 06/12/2023 for construction work

Type of work	:	Maintenance work. However, for the purpose of payment of agreement items beyond specified deviation limit and extra items, the work shall be treated as maintenance work. The deviated agreement quantity, extra and substituted items shall be paid as per clause no.12 for maintenance work.
12.3	Deviation limit beyond which clause 12.3 shall apply for civil & electrical work:	50% (All the deviated quantities shall be paid at agreement rates) vide OM No. (DG/CON/ Maintenance 2023/03 dated 18/12/2023).
Clause-16:	Competent Authority for deciding reduced rates.	Executive Director AIIMS Bilaspur, HP or Successor

Clause-18:- List of mandatory machinery tools & Plants to be deployed by the Contractor at site : As per site requirement & direction of the Er. In-Charge.

Clause 19 C,D,G,K :

Authority to decide penalty for each default : Superintending Er. AIIMS Bilaspur, HP

Clause 25: Constitution of Dispute Redressal Committee:

i)	Chairman	
ii)	Member-1 Member-2	
iii)	Place of Arbitration	Bilaspur, HP

To be constituted by the Executive Director, AIIMS Bilaspur at the time of arisen of disputes if any.

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

Sr. No	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical Representative	Minimum Experience	Number	Rate at which recovery shall be made from contractor in the event of non-deployment.	
						Figures	Words
1.	Graduate Engineer Or Diploma Engineer	Civil/Mechanical Civil/ Mechanical	Principle Technical Representative (Project planning/ site/billing Engineer)	2 Years 5 Years	1 No. 1 No.	Rs 15,000/- per month Rs. 15,000/- per month	Rupees Fifteen thousand only per month per person. Rupees Fifteen thousand only per month per person.

Assistant Engineers retired from Central/State Govt. 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 agency/firm can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holder should not exceed 50 % of requirement of degree engineers.

Clause-38:-

i) Schedule / Statement for determining	As per Delhi Schedule of Rates 2023 with amendments/ correction slips up to last of submission of bids.

TABLE OF MILE STONE (S)

Name of work: Replacement of Ceiling Tiles in Various Blocks of the Hospital at AIIMS Bilaspur, Himachal Pradesh.

Sl. No. of Mile Stone	Description of Milestone	Time Allowed (From date of start)	Amount to be withheld in case of non-achievement of milest one
1.	Work done of value 1/8th of tendered amount (whole work)	¼ th of the time period of completion	1.25 % of accepted tendered amount
2.	Work done of value 3/8th of tendered amount (whole work)	1/2th of the time period of completion	1.25 % of accepted tendered amount
3.	Work done of value 3/4th of tendered amount (whole work)	3/4th of the time period of completion	1.25 % of accepted tendered amount
4.	Completion of work/Full Work	Time Period of Completion	1.25 % of accepted tendered amount

अखिल भारतीय आयुर्विज्ञान संस्थान,
बिलासपुर, हिमाचल प्रदेश

GENERAL CONDITIONS (CIVIL WORK)

1.0 General :

1.1 Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of quantities, the work shall generally be carried out in accordance with the "CPWD Specifications-2019 with amendments issued on date 2019 Vol. I & II" and as per instructions of Engineer-in-Charge. Wherever CPWD Specifications-2019 with amendments issued on date are silent, the latest IS Codes / Specifications shall be followed and the rates should be all inclusive.

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

(i) Nomenclature of item as per Schedule of Quantities
(ii) Special Conditions.
(iii) Particular Specifications.
(iv) CPWD Specifications-2019 with amendments issued on date.
(v) Architectural Drawings.
(vii) Indian Standard Specifications of B.I.S.
(viii) All non-schedule items shall be governed by manufacturer's specifications.

The works to be under taken by the contractor shall inter-alia include the following:

i. Preparation of architectural, structural drawings, detailed Shop drawings and AS-BUILT Drawings.

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 equipment supplied by the contractor:**

Contractor shall provide all the shop drawings for all the coordinated services before starting any work or placing any order for any of the services MEP system etc. These shop 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 site engineer approval prior to delivery of material at site.

1.2 Any reference made to any Indian Standard Specifications, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of

tenders. The Contractor shall keep at his own cost all such publications including relevant Indian Standard applicable to the work at site.

1.3 The work shall be executed and measured as per metric dimensions given in the Schedule of Quantities, drawings etc. (FPS units wherever indicated are for guidelines only).

1.4 The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors is minimized. Wherever absolutely essential, the chase shall be cut

using chase cutting machines. Chases will not be allowed to be cut using hammer / chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper co-ordination of various disciplines viz. sanitary & water supply, horticulture & electrical etc.

1.5 All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested before covering.

1.6 Samples including brand / quality of materials and fittings to be used in the work 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.

1.7 Equipment like concrete pump excavators/Transit mixer etc. shall be allowed to be moved away from the site when, in written opinion of Engineer-in-Charge, the same are no longer required at site of work.

1.8 The contractor, his agents / representative, workman etc. shall strictly observe orders pertaining to fire precautions prevailing in the area.

1.9 Contractor(s) shall study the soil investigation report for the site, available in the office of the Engineer-in-Charge and satisfy himself about complete characteristics of soil and other parameters at site. However, no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.

1.10 The tenderer shall see the approaches to the site. In case any approach from main road is required at site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost.

1.11 Contractor shall take all precautionary measures to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.

1.12 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 damages and accidents caused to work due to negligence on his part. No hindrances shall be caused to traffic, during the execution of the work.

1.13 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 area as where other buildings, roads, compound wall, services etc are to be constructed.

1.14 The contractor shall provide at his own cost suitable weighing, surveying and leveling and measuring arrangements as may be necessary at site for checking. All such equipment's shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.

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

1.16 Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and municipal body / corporation where CPWD Specifications-2019 with amendments issued on date are not applicable. The contractor

should get the materials (fixtures/fittings) tested by the Municipal Body / Corporation authorities wherever required at his own cost.

1.17 The work shall be carried out in accordance with the Architectural drawings and Structural drawings, to be submitted by Vendor after vetting from Competent Person. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall supersede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge for immediate decision before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim, whatsoever shall be entertained on this account.

1.18 The Architectural drawings other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fittings involved unless and otherwise specifically mentioned.

1.19 The contractor should submit the shop drawing of staging and shuttering for approval of Engineer-in-Charge before actually commencing the execution of work under the item. Nothing extra shall be payable on this account.

1.20 Other agencies may also simultaneously execute and install the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings, trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be available as specified elsewhere in the contract) and the contractor shall fix the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

1.21 The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.

1.22 All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

1.23 The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work.

1.24 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. In case temporary supporting/shifting of such services is required to facilitate the work, the same shall be done by the contractor at no extra cost.

In case the existing services are to be shifted permanently, then before dismantling the existing services, alternate/diversion of service lines has to be laid by the contractor so that there is no interruption in use of existing services.

The contractor has to plan the alternate suitable route for diversion/shifting of service lines and get the same approved from the Engineer-in-Charge before starting shifting of services. Nothing extra shall be paid except the payment of dismantling and laying of new service lines as per conditions of contract.

1.25 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.

1.26 The contractor shall be fully responsible for the safe custody of materials brought by him/ issued to him even though the materials may be under double lock key system.

1.27 For construction works which are likely to generate malba / rubbish to the tune of less than a tempo / truck load, contractor shall dispose of malba, rubbish & other unserviceable materials and wastes at his own cost to the notified specified dumping ground and under no circumstances these shall be stacked/ dumped even temporarily, outside the construction premises.

1.28 If as per local Municipal regulations, huts for labour are not 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.

1.29 The structural and architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless otherwise given in writing by the Engineer-in-charge.

1.30 The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department.

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

1.32 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.

1.33 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. 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.

1.34 The contractor shall have to make approaches to the site, if so required and keep them

in good condition for transportation of labour and materials as well as inspection of works by the Engineer in charge. Nothing extra shall be paid on this account.

1.35 No payment will be made to the contractor for damage caused by rains, or other natural calamities during the execution of the works and no such claim on this account will be entertained.

1.36 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.

1.37 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.

1.38 Wherever work is specified to be done or material procured through specialized agencies, their names shall be got approved well in advance from Engineer in charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work, contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer in charge. Any material procured without prior approval of Engineer in charge in writing is liable to be rejected. Engineer in charge reserves right to get the materials tested in laboratories of his choice before final acceptance. Non-standard materials shall not be accepted.

1.39 Doors and frames shall be procured from specialist firms and name of such agencies shall be got approved from the Engineer in charge well in advance.

1.40 The construction joints shall the provided in predetermined locations only as decided by Engineer in charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the contractor.

1.41 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.

1.42 The contractor shall provide at his own cost suitable weighing surveying and levelling and measuring arrangements as may be necessary at site for checking. All such equipment's shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.

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

1.44 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 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.

1.45 If the work is carried out in more than one shift or during night no claim on these accounts shall be entertained.

1.46 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.

1.47 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.

1.48 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 at actual basis with submission of supporting documents by the contractor.

1.49 The Plinth Level of Building is to be kept as per Architectural drawings. All the items of works such as PCC, RCC, Brickwork and shuttering etc. in foundation up to this plinth level with be measured and paid as the work done up to plinth level. Nothing extra due to higher plinth will be paid and contractors rates quoted for all these items shall, therefore, the deemed to cater for extra height of plinth.

1.50 The contractor shall establish a laboratory at site to test the coarse aggregate, fine aggregate, water, sand, cement etc.

1.51 With each Running Bill, the details of test carried out shall be submitted by the contractor as per proforma attached.

1.52 On completion of work, the contractor shall submit at his own cost four prints of "as built" drawings to the Engineer-in-Charge. These drawings shall have the following information.

a) Run off of all piping and their diameters including soil, waste pipes and vertical stacks.
b) Ground and invert level of all drainage pipes together with locations of all manholes and connections, up to out-fall.
c) Run off of all water supply lines with diameters, location of control valves, access panels etc.

In case the contractor fails to supply "as built drawing" aforesaid within 30 days of the date of completion, then the recovery @ Rs.10,000/- each for such set of drawings (as applicable) shall be made from the contractor's final bill.

1.53 In the item of providing and fixing precast reinforced cement concrete in shelves the cost of cutting chases and making good the same shall be inclusive in the item ad nothing extra shall be paid on this account.

1.54 In the item of finishing walls with water proofing ~~cement~~ paint, only the plain / flat are shall be measured for payment and nothing extra shall be paid on account of pointed wall surface.

1.55 Unless otherwise specified in the schedule of quantities or CPWD Specifications-2019 with amendments issued on date, the rates for respective items shall be all inclusive and apply to the following: -

(i) All lifts & all heights, floors including terrace, leads and depths.
(ii) All labour, material, tools and plants and other inputs involved in the execution of the item.
(iii) Any of the conditions and specifications mentioned in the tender documents.
(iv) Pumping / bailing out surface water / rain water / sub soil water, if necessary for any reason.
(v) Providing sunk flooring in bath-rooms, kitchen, etc.
(vi) Any legal or financial implications resulting out of disposal of earth, if any.
(vii) Payment of Royalty at the prevailing rates, if any, on the boulders, metal, shingle, sand and bajri etc. or any other material collected by him for the work direct to revenue authorities.
(viii) Performance test of the entire installation(s) before the work is finally accepted.
(ix) Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items.
(ix) All incidental charges for cartage, storage and safe custody of materials brought to site.

2.0. QUALITY ASSURANCE OF THE WORK:

1. 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.

2. 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.

3. The contractor shall submit shop drawings of staging and shuttering arrangement, aluminium 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.

A) Laboratory at Site:

The contractor shall provide at site, the testing equipment and materials for the field tests mentioned in the list of mandatory tests given in CPWD Specifications-2019 (Vol. 1 & 2) with amendments issued on date at his own cost. Nothing extra shall be payable to him on this account. In all cases, cost of samples and to and fro carriage shall be borne by the contractor (As per DG MAN/410 dated 22/10/2021 circular).

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 as per lab details provided.
All test which can be performed in the site lab with above equipment's shall be done at site except that at least 10% testing of materials shall be got done from external laboratories. However, for the tests to be carried out by the external laboratories, the contractor shall supply free of charge all the materials required for testing, including transportation. The testing charges shall be borne by the Contractor.

B) Other Laboratories:

The contractor shall arrange carrying out of 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 fee for testing. The said cost of tests shall be borne by the contractor in the manner indicated below: -

(All expenditure to be incurred for testing of samples e.g. packing sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The NIT shall have list of approved laboratories for testing as approved by ADG.DG/MAN/410 dated 22/10/2021).

If the tests, which were to be conducted in the site laboratory, are conducted in other laboratories for whatever the reasons, the cost of such tests shall be borne by the contractor.

4. **Sampling of Materials:**

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.

5. 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.

6. 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 or test certificate from approved testing laboratory 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.

7. The contractor shall procure all the materials at least in advance so that there is sufficient time for testing and approving of the materials and clearance of the same before its use in work.

8. 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.

9. 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.

10. **QUALITY & QUARRIES OF STONE AGGREGATE & SAND**

The Stone aggregate/ stone/ coarse sand/ fine sand shall be brought by the contractor from any query legitimately authorized by the concerned local authorities and the materials brought at site should conform to relevant CPWD Specifications-2019 with amendments issued on date.

11. The contractor shall provide approved type of supports for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings. Spacer blocks of required shape and size, MS chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. Spacer blocks shall be cast well in advance with approved proprietary pre-packed free flowing mortars (conbextra as manufactured by M/s Fosroc Chemicals India Ltd. or approved equivalent) of high early strength. Blocks of polymer shall not be used as spacer blocks unless specially approved by the Engineer-in-Charge. Rate of item of steel reinforcement is inclusive of cost of such cover blocks.

3.0. TESTING OF MATERIAL: -

3.1 Samples of materials required for testing shall be provided free of charge by the contractor. The cost of tests shall be borne by the contractor in the manner indicated below:

(All expenditure to be incurred for testing of samples e.g. packing sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The NIT shall have list of approved laboratories for testing as approved by ADG.DG/MAN/410 dated 22/10/2021).

3.2.

a) All the test in field lab setup at construction site shall be carried out by the Engineering Staff deployed by the contractor which shall be 100% witnessed by JE & 50% of tests shall be witnessed by AE –in-charge. At least 10% of the tests are to be witnessed by the EE/ SE division office.

b) All the entries in the registers will be made by the designated Engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE/SE division office.

c) Contractor shall be responsible for safe custody of all the test registers.

d) Submission of copy of all test registers, materials at site Register and hindrance register along with each alternate Running Account Bill and Final Bill shall be mandatory. These registers should be duly checked by JE in Division Office & receipts of registers should also be acknowledged by Accounts Officer by signing the copies and register to confirm receipt in division office.

e) Extensive testing of the materials used for construction is a pre-requisite for attaining high quality of the work. This shall also require specialized tests, physical, chemical, ultrasonic, x-ray and various other types of tests which cannot possibly be carried out in a site laboratory. These tests also require specialized personal who regularly deal in such testing. Therefore, the need arises for carrying out the tests in outside laboratories.

3.3 These laboratories may be in the Govt. sector, Semi Govt. or Private sector. The outside private laboratories shall be short listed before handed by EE and approval obtained from SE. In case of laboratories in the private sector, the past record and reputation of the laboratory must invariably be given due consideration. The infrastructure in these laboratories can also be inspected before they are short listed.

3.4 However, testing of material in any Govt., Lab / Public Undertaking Lab/IIT or NIT Lab/Govt. Engineering College may be allowed by Superintending Er. - Civil without prior approval of higher officers provided these labs have all necessary facility to carry out the required tests.

3.5. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set-out tolerance limit shall be summarily rejected by the Engineer-in-Charge & contractor shall be bound to replace / remove such sub-standard / defective work immediately.

3.6 The list of Field equipment referred above are to be arranged and maintained by the contractor at the site of work. In case the equipment required for any test is not available at site, the department shall get the test conducted from the third party. However, in that event, besides providing free materials of sample, the cost of taking of sample, packing, transportation, testing charges etc. shall be borne by the contractor irrespective of the results.

3.7 <u>Maintenance of Register of Tests:-</u>

(i) All the registers of tests carried out at Construction Site or in outside laboratories shall be maintained by the contractor.

(ii) All Samples of materials including Cement Concrete Cubes shall be taken jointly with Contractor by JE and out of this at least 50% samples shall be taken in presence of AE in charge. If there is no JE, all Samples of materials including Cement Concrete Cubes shall be taken by AE/EE jointly with Contractor. All the necessary assistance shall be provided by the contractor. Cost of sample materials is to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site.

(iii) All the tests to be conducted at Construction Site shall be carried out by the Engineering Staff deployed by the contractor which shall be 100% witnessed by JE and 50% of tests shall be witnessed by EE/AE-in-charge. At least 10% of the tests are to be witnessed by the Executive Er-Civil. For outstations, the percentage of tests to be witnessed by JE, AE & EE are to be decided by NIT Approving Authority and should form part of QA Plan.

(iv) All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by JE/AE/EE.

(v) Contractor shall be responsible for safe custody of all the test registers.

3.8 Maintenance of Material at Site (MAS) Register –

(i) All the MAS Registers including Cement and Steel Registers shall be maintained by Contractor.

(ii) Each of the entry of receipt of material at site shall be 100% test checked by JE or by AE/EE if there is no JE.

iii) Each MAS Register shall be checked by JE at least twice a week and at least once a week by AE/EE. If There is no JE then MAS registers will be checked by AE/EE at least twice a week.

(iv) Cement Register shall be reviewed by EE at least one in a month. For outstations the frequency of checking the Registers by JE, AE & EE is to be decided by NIT Approving Authority and should form part of QA plan.

4.0 SECRECY:

4.1 The contractor shall take all steps necessary that all persons employed on any work in connection with the contract have notice that the Indian Official Secrets Act 1923 applies to them & will continue so to apply even after the execution of such works under the contract.

4.2 The contract is confidential and must be strictly confined to the contractor's own use (except so far as confidential disclosure to sub-contractors or suppliers as necessary) and to the purpose of the contract.

4.3 All documents, copies thereof & extracts there from furnished to the contractor shall be returned to the Engineer-in-Charge on the completion of the work / works or the earlier determination of the contract.

5.0 LABOUR AND SECURITY:

5.1 Contractor should provide his plan for labour huts as per his requirement and get it approved from the Engineer-in-Charge. The contractor will be provided space subject to approval by competent Authority and availability for labour huts etc. inside the campus but the space requirement and location, as assessed by Engineer-in-Charge shall be final and binding.

5.2 Contractor has to follow the security requirement of the campus and obtain necessary entry passes for the labour and vehicles and follow security checks at entry / exit gates, restriction on movement of vehicle, restricted timings of working etc. The Department however shall assist the contractor in obtaining such passes for movement of vehicles and labour. No claim whatsoever shall be entertained on account of delay in entry of vehicles and labour including restrictions in working hours, if there is any.

5.3 The contractor shall employ only Indian Nationals after verifying their antecedents and loyalty. The contractor shall, on demand submit list of his agents, employees and work people concerned & shall satisfy as to the bonafide of such people.

5.4 The contractor & his work people shall observe all relevant rules regarding security promulgated in which work is to be carried out by the Controlling Administrative Authority of the campus/area (hereinafter referred to as "Administrator").

5.5 The contractor, his representative, workman shall be allowed to enter through specified gates & timing as laid down by the controlling authority. They shall be issued an identity card or an individual pass in accordance with the standing rules & regulations & they should possess the same while working. The contractor shall be responsible for the conduct & actions of his workman, agents / representatives.

5.6 Normally contractor shall be allowed to carry out work between 7 AM to 6 PM. However, he may also be allowed to carry out the work beyond 6 PM & up to 7 AM if the site conditions / circumstances so demand with prior written permission from the "Administrator".

However, if the work is carried out in more than one shift or at night, no claim on this account shall be entertained.

5.7 Normally contractor's material / vehicles etc shall be allowed to move in / go-out between 7 AM to 7 PM only & no movement of material / vehicles out of site of work shall be allowed during night hours unless specific permission is obtained from the "Administrator".

5.8 In case if a separate entry has been allowed, the contractor has to make all arrangement for making a separate entry gate and barricading of the working area to segregate/separate the same from other areas. All these have to be done by the contractor at his own cost including safeguarding any untoward incident in the restricted area due to separate entry gate and barricading arranged by the contractor. No extra amount on this account shall be payable by the department.

6.0 TRANSPORTATION AND OFFICE INFRASTRUCTURE:

6.1 In order to complete the work within the scheduled time if the contractor shall be required to do the work in more than one shift and accepted by the department the contractor will provide vehicular facilities to the site staff to reach the site and their residence at his own cost for their services required beyond the normal office hours. In case the contractor fails to provide the facilities Engineer-in-Charge shall be at liberty to make the arrangement themselves and deduct the respective cost from the contractor's bills.

7.0 PROGRAM CHART: -

7.1 The Contractor shall prepare an integrated program chart for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the program within the stipulated period or earlier and submit the same for approval of the Engineer-in-Charge within 15 days of the issue of letter of acceptance for the contract.

7.2 The work has to be completed in stages as indicated in the Milestones under Schedule 'F' and the program should be prepared in such a manner to achieve these Milestones as indicated therein or earlier.

7.3 The program chart should include the following: -

a) Descriptive note explaining sequence of various activities.

b) Network (PERT/CPM/BAR CHART) 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 of procurement of machinery/equipment's having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.

7.4 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.

7.5 The submission of revised program or 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.

7.6 Notwithstanding the fact that the contractor will have to pay to the Labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amounts for any other reason.

8.0 PROGRESS AND MONITORING OF WORK:

Contractor shall give the Engineer-in-Charge on the 10th day of each month, progress report of the work done during the previous month. Such progress report will include the project progress summary, work progress (planned v/s. actual), PERT chart, mile stone status, financial progress status, manpower deployment status, important materials consumed, materials at site at the beginning of the month, materials consumed during the month and the balance quantities at the end of month and progress of the work stating the reasons for shortfall, if any including the steps and measures to be taken for making good the shortfall in the succeeding period. Non submission of aforesaid progress report shall make contractor liable for action under breach of contract conditions.

9.0. SAMPLE OF MATERIALS: -

9.1 All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per List of Preferred Makes as at Page No.96 to 99 or approval of Engineer-in-Charge. For all other items, ISI Marked materials and fittings shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant Specifications or IS codes for the approval of Engineer-in-Charge.

9.2 To avoid delay, contractor should submit samples as stated above well in advance so as to give timely orders for procurement. If any material, even though

approved by Engineer-in-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

9.3. BIS marked materials except otherwise specified shall also be subjected to quality test besides testing of other materials as per the specifications described for the item/material. Wherever BIS marked materials are brought to the site of work, the contractor shall, furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfies the provisions of specifications relevant to the material and / or the work done.

BIS marked items (except cement & steel for which separate provisions have been made in para 10.0) required on the work shall be got tested, for only important tests, which govern the quality of the product, as decided by the Engineer-in-Charge. The frequency of such tests (except the mandatory test) shall be 5% of the frequency as specified in BIS. For mandatory test, frequency shall be as specified in the CPWD Specifications-2019 with amendments issued on date.

9.4 For certain items, if frequency of tests is neither mentioned in the CPWD Specifications-2019 with amendments issued on date & BIS, then tests shall be carried out as per decision of Engineer-in-Charge.

10 CEMENT & STEEL REINFORCEMENT (IF NOT STIPULATED, TO BE PROCURED BY THE CONTRACTOR).

10.1 Contractor has to produce manufacturers test certificate for each lot of Cement & Steel Reinforcement procured at site.

10.2 CEMENT: -

10.2.1 The contractor shall procure 43 Grade Ordinary Portland Cement confirming to IS: 269-1989 Portland Pozzolana Cement confirming to IS: 1489 Part -I as required in the work from reputed manufacturers of cement such as ACC, UltraTech, Vikram, Shree Cement, Ambuja, JP Cement, Century Cement and JK Cement Or from any other reputed cement manufacturer having a production capacity not less than one million tons per annum as approved by the ADG for that sub region, in 50 kg. bags bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot. Portland Pozzolana Cement is to be used for RCC works only subject to fulfillment of conditions of circular number CDO/SE(RR)/ Fly-Ash (MAN) 02 dated 09.04.09. In case contractor/firm uses OPC only nothing extra shall be paid.

10.2.2 Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS Codes. The cement for such testing purpose shall be supplied by the contractor free of charge. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS Codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so. The cost of tests shall be borne by the contractor

(All expenditure to be incurred for testing of samples e.g. packing sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The NIT shall have list of approved laboratories for testing as approved by ADG.DG/MAN/410 dated 22/10/2021).

10.2.3 OPC/ PPC shall be brought at site in bulk supply of approximately 30 tons or as decided by the Engineer-in-Charge.

10.2.4 OPC/PPC bags shall be stored in separate godowns. Separate godowns for tested cement and fresh cement (under testing) to be constructed by the contractor at his own cost as per sketches given in C.P.W.D Specifications having weather-proof roofs and walls. The size of the cement godown is indicated in the sketches for guidance. The actual size of godown shall be as per site requirements and nothing extra shall be paid for the same. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with Engineer-in-Charge of the work and that of other lock with the authorized agent of the contractor at the site of work so that the cement is issued from godown according to the daily requirement with the knowledge of both parties. The account of daily receipt and issue of cement shall be maintained in a register in the prescribed proforma and signed daily by the contractor or his authorized agent and Engineer-in-Charge or his authorized representative in token of its correctness. The day-to-day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the contractor or his authorized representative which shall be duly Signed by the authorized representative of the Engineer-in-Charge before issue to the work on day-to-day basis.

The capacity of each cement go-down shall be 300 bags of cement or more as decided by the Engineer-in-Charge and shall be constructed by the contractor at site of work and at the site of batching plant for which no extra payment shall be made. The contractor shall be responsible for the watch and ward and safety of the cement go-downs. The contractor shall facilitate the inspection of the cement go-downs by the Engineer-in-Charge at any time.

10.2.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in 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 the conditions laid therein.

10.2.6 If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorized variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work, the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in Clause - 38), the cost of quantity of cement not so used shall be recovered from the contractor as specified in schedule. Decision of the Engineer-in-Charge in regard to theoretical quantity of cement which should have been actually used as per the schedule and recovered at the rate specified, shall be final and binding on the contractor.

<u>For non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantity of the cement, which should have been actually used, shall be final and binding on the contractor.</u>

10.2.7 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.

10.2.8 In case the contractor brings surplus quantity of cement the same shall be removed from the site after completion of work by the contractor at his own cost after approval of the Engineer-in-Charge.

10.2.8 Cement, which is not used within 90 days from its date of manufacture, shall be retested at approved laboratory. Until the results of such tests are found satisfactory, it shall not be used on the work.

10.3 STEEL REINFORCEMENT: -

10.3.1 The contractor shall procure Thermo Mechanical Treated (TMT) Steel Reinforcement bars of Fe 500D from Primary producers such as SAIL, Tata Steel Ltd., RINL, Jindal Steel and Power Ltd. & JSW Steel Ltd. Or their authorised dealers or any other producer as approved by the

CPWD who are using iron ore as the basic raw material / input and having Crude Steel Capacity of 2.00 million tons per annum and above.

In case of non-availability of steel from primary producer the NIT approving authority may permit use of TMT reinforcement bars procured from steel producers having Integrated Steel Plants (ISPs) using iron ore as the basic raw material for production of crude steel which is further rolled into finished shapes in-house having crude steel capacity of 0.50 million tons annum and more. A separate list of producers for this category shall be approved by the ADG concerned for their sub region under intimation to directorate CPWD/ CE, CSQ.

In case of non–availability of steel from Primary producers as well as ISPs then the NIT approving authority may also permit use of TMT reinforcement bars procured from secondary producers. In such cases following conditions are to be stipulated in the NIT-by-NIT approving authority. The agency/contractor procures TMT reinforcement bars produced from approved secondary producers the following conditions, should be satisfied and payment shall be made as stipulated under para 10.3.10:

a) The grade of the steel shall be Fe 500 D as per BIS 1786-2008.
b) The secondary producers have valid BIS licence to produce TMT steel bars conforming to IS 1786: 2008. In additional to BIS licence, the secondary producer must have valid licence from either of the firms Tempcore, Thermax, Evcon Turbo & Turbo Quench to produce TMT bars.
c) The TMT bars procured from primary producers shall conform to manufacture's specifications.
d) The TMT bars procured from secondary producers shall conform to the specifications as laid by Tempcore, Thermax, Evcon Turbo & Turbo Quench as the case may be.
e) TMT bars procured either from primary producers or secondary producers; the specifications shall meet the following provisions of IS 1786: 2008 pertaining to Fe500D grade of steel:

Mechanical Properties

Parameter	Minimum Value
Yield Strength	500 N/ sq.mm.
Tensile Strength, Min	**10 percent** more than the actual 0.2 percent proof stress/ yield stress but not less than **500** N/ sq.mm.

Elongation Percentage, Min. on gauge length 5.65√A, where A is the cross-sectional area of the test piece	16.0

Chemical Properties

Chemical Constituents	**Maximum % as per BIS 1786: 2008 for Fe 500D grade of steel**
Carbon	0.30
Sulphur	0.055
Phosphorus	0.055
Sulphur + Phosphorus	0.105

10.3.2 The contractor shall have to obtain and furnish test certificates to Engineer –in-Charge in respect of all the supplies brought by him to the site of work.

10.3.3 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, as defined under para 10.3.1 (a) above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in Charge to do so.

10.3.4 The steel reinforcement shall be brought in bulk supply as decided by the Engineer-in-Charge along with manufacturer test certificate for each lot.

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

10.3.6 Unless OTHERWISE specified elsewhere in the contract document, the testing (nominal mass, tensile strength, bend test, rebend test etc.) shall be done as per frequency of samples not less than as given below

SIZE OF BAR	**FOR CONSIGNMENT BELOW 100 TONS**	**FOR CONSIGNMENT OVER 100 TONS**
Under 10 mm dia	One sample for each 25 tons or part thereof.	One sample for each 40 tons or part thereof
10 mm to 16 mm dia	One sample for each 35 tons or part thereof.	One sample for each 45 tons or part thereof
Over 16 mm dia	One sample for each 45 tons or part thereof	One sample for each 50 tons or part thereof

Tolerances on Nominal Mass

Nominal size in mm	**Tolerance on Nominal Mass Percent**		
	Batch	**Individual sample +**	**Individual sample for coil.**

(a) Up-to and including 10	+7	-8	+8
(b) Over 10 up-to and including 16	+5	-6	+6
(c) Over 16	+3	-4	+4

+ For individual sample plus tolerance is not specified.

***** For coils batch tolerance is not specified.

10.3.7 The contractor shall supply free of charge the steel required for testing including transportation to testing laboratories. The cost of tests shall be borne by the contractor. All expenditure to be incurred for testing of samples e.g. packing sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The NIT shall have list of approved laboratories for testing as approved by ADG.DG/MAN/410 dated 22/10/2021

10.3.8 The Actual issue and consumption of steel on work shall be regulated and proper account maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment needs to be made.

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

~~10.3.10 In case if contractor is permitted to uses TMT reinforcement bars procured from ISPs or secondary producers then,~~
~~(i) The Rate of providing & laying TMT reinforcement bars as quoted by the contractor in the tender shall also be reduced by ------- per kg.~~

10.3.11. The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and Test Certificates and furnish the same to the Engineer-in-Charge in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers and test certificates shall be defaced by the Site staff and kept on record in the site office.

10.3.12 Reinforcement including authorized spacer bars and lappages shall be measured in length of different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.

10.3.13 The standard sectional weights referred to as in Table 5.4 in para 5.3.4 in CPWD Specifications-2019 with amendments issued on date will be considered for conversion of length of various sizes of M.S. Bars, T or Steel Bars and T.M.T. bars into Standard Weight.

10.3.14 Records of actual Sectional weights shall also be kept dia-wise and 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. However, for the stipulated issue of steel reinforcement up to and including 10mm diameter bars, the actual weight of steel issued shall be modified to take into account the variation between the actual and the standard coefficients and the contractors' accounts will be debited by the cost of modified quantity.

10.3.15 a) If the Derived Weight as in sub-para (10.3.14) above is less than the Standard Weight as in Sub-para (10.3.13) above then the Derived Actual Weight shall be taken for payment provided, if it is within the tolerances specified in IS 1786-2008, otherwise whole lot will be rejected.

b) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as per in sub-para (10.3.13) above shall be taken for payment. In such case nothing extra shall be paid for the difference between the Derived Actual Weight and the Standard Weight.

11.0 ENGAGING SPECIALIZED AGENCIES FOR WORKS:-

11.1 The Contractor shall engage specialized agency unless otherwise approved by any Institute Department having adequate technical capability and experience of having executed at least one work of similar items of 80% or more magnitude or two works of similar items of aggregate value minimum 50% or three works of similar items of minimum 40% magnitude individually for executing the following items of the work and/Orany other items of work where specialized firm is required to be engaged as per contract conditions. For determining the required magnitude, the value of the work executed may be suitably enhanced with the prevailing approved cost index.

(i) Anti Termite treatment work.
(ii) Factory made Wooden Shutters of all types except Flush Doors.
(iii) Water proofing treatment work of all types.
(iv) Tubewell installations
(v) Overhead Tank.
(vi) Aluminum Work.

11.2 The Specialized agency for the work shall be got approved from the Engineer-in-Charge well before actual commencement of the item of work. The contractor shall submit the list of Specialized agencies except for Internal Electrical Installation, proposed to be engaged by him along with necessary performance certificates, within 30 days from the date of issue of acceptance letter to substantiate technical capability and experience of the agency for prior approval of the Engineer-in-Charge.

11.3.1 For Internal Electrical Installation work as contained in the Electrical component work under Section VII, the Electrical Agency to be associated shall be of appropriate class of CPWD. Provisions mentioned under Sr. No. 11.1 above are not applicable for engagement of Electrical Agency. However, contractor shall submit MOU to Executive Engineer (Elect.) AIIMS Bilaspur H.P. ssigned with eligible Electrical Contractor/Agency along with consent letter of Electrical Agency at least 7 days before the last date of submission of Performance Guarantee. It will be

obligatory on the part of main contractor to sign the tender documents for all the components.

11.3.2 If the main contractor fails to associate agency/agencies for execution of minor components of work within prescribed time or furnishes incomplete details or furnishes details of ineligible agencies even after the tenderer is given due opportunity, the entire scope of such component of works shall be withdrawn from the tender and the same shall be got executed by the Engineer-in-Charge at the risk and cost of the main contractor.

11.3.3 Same milestones shall be applicable for all components of work.

11.4 For the specialized item of Polypropylene Pipes the contractor shall engage such vendors as approved by the manufacturer. Provisions mentioned under Sr. No. 11.1 above not applicable for Polypropylene Pipes.

12.0 SAMPLE QUARTER/ ROOM: -

The contractor shall construct a sample quarter/ room complete in all respects including all Civil details/ fixtures, as contained in "Table of Mile Stone(s)". The sample quarter/ room shall be inspected and approved by the Engineer-in-Charge. Slight changes with regard to the fixtures/ fittings/ details/ dimensions etc. may occur as per the actual requirement or in order to enhance the functionality of the product or the unit. Thus, the procurement for all the internal fittings/fixtures/ fabricated material and other material etc. shall be done by the contractor only after the approval of the sample quarter/room.

13.0 Defect liability:

13.1 The contractor's liability during the defect liability period from the final date of completion as per clause 17 shall be limited to rectification of defects including replacement as follows which in the opinion of Engineer-in-Charge are not man made.

Sl. No.	Description	Defect Liability
(i)	Anti termite treatment	(a) Termites found if any till guarantee period to be rectified through post ATT
(ii)	Concrete	(a) Rectification of structural / superficial / non-structural cracks. (b) Rectification of dampness / seepage in roof slab/junctions & sunken portion. (c) Rectification of cracks in beam, shade, column.
(iii)	Brick work	(a) Rectification of cracks in panel wall / portion. (b) Cracks / settlement of dwarf walls. (c) Rectification of efflorescence.
(iv)	Joinery	(a) Replacement of warped joinery. (b) Cracks in panels, rails / styles etc.
(v)	Builders Hardware	(a) Repairs / Replacement of loosened / pre-mature failure of fittings. (b) Tightening / Replacement of sag in mosquito proofing.

Sl. No.	Description	Defect Liability
(vi)	Steel & Iron work	(a) Rectification / Replacement of defective part of rolling shutter. (b) Redoing of defective portion in fabrication/ welding including painting. (c) Steel windows, grills, gates etc.–defects to be rectified.
(vii)	Roof treatment	(a) Rectification of leakage / seepage of roof slab including covering at junction till guarantee period.
(viii)	Plastering	(a) Rectification of structural / superficial cracks if any. (b) Rectification of protruding / peeling off plaster if any. (c) Rectification of efflorescence.
(ix)	Flooring	(a) Rectification of sinking portion of plinth protection including saucer drain. (b) Settlement of foundation & floors.
(x)	Plumbing / Sanitary fittings	(a) Making good of leakage through soil/waste pipe joints. (b) Replacement of looking mirror if found wavy. (c) Rectification of leakage of overhead tanks. (d) Leakage / seepage of sunken floor, blockage of taps / pipes, non-functioning of cistern.
(xi)	Finishes	(a) Making good of defective / dissimilar patches of painting to match with remaining surfaces.
(xii)	Internal Water Supply	(a) Repairs / Replacement of defective taps / fittings. (b) Repair to leakage of GI water pipe lines including joints. (c) Removal of blockage of GI pipe lines.
(xiii)	Roads	(a) Repair of sinking portion of road & potholes, if any
(xiv)	Sewage	(a) Rectification of slope / system if found defective during use. (b) Rectification of major blockage in Sewer lines. (c) Cracks & settlement of sewage lines.
(xv)	Drains	(a) Repair to Drains. (b) Settlement of Drains
(xvi)	External Water Supply	(a) Repairs to installations & fittings.
(xvii)	General	(a) All manufacturing defects of structures / fixtures / fittings / equipment's other than listed above.
(xviii)	PUFF Panel Roofing	Rectification of leakage / seepage of roofing including junction till guarantee period.

PARTICULAR SPECIFICATIONS (CIVIL WORKS)

1.0 EARTH WORK: -

1.1 Anti Termite Treatment: -

1.2.1 The work shall be executed by specialized agency to be approved by the Engineer in Charge.

1.2.2 The Chemical shall strictly conform to Specifications & shall be as per BIS covered by ISI marking. Chemical has to be of approved quality out of preferred make. 100% material has to be procured of approved make before start of work. The chemical shall be used only after due testing & if found conforming to the Specifications. Proper account has to be kept for day-to-day use of Chemical for ascertaining its consumption and usage.

1.2.3 The dosage /rate of application of chemical emulsion shall be as per the details indicated in the scheduled item/description.

2.0 R.C.C. WORK (ORDINARY)

2. 1 The work shall be done in accordance with CPWD Specifications-2019 with amendments issued on date.

2.1.2 Water Cement ratio for Ordinary RCC work shall not be more than 0.5. Contractor shall use concrete mixture of proper design having arrangement for measuring water for mixing of concrete.

2.3 FORM WORK

2.3.1 The work shall be done in general as per CPWD Specifications-2019 with amendments issued on date.

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

2.3.3 Nothing extra shall be paid for the centring and shuttering, circular in shape whenever the formwork is having a mean radius exceeding 6m in plan.

2.3.4 Nothing extra shall be paid for grid beams and the corresponding slabs having clear span more than 1.20 meters.

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

As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 12 to 20mm or as required, lower than general floors shuttering should be adjusted accordingly. Nothing extra is payable on this account.

2.3.6 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 to complete the shuttering panels.

Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.

The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or de-bonding compound shall be applied on the surface of the shuttering plates in the requisite quantity before assembly of steel reinforcement.

2.4 REINFORCEMENT: -

2.4.1 The reinforcement shall be done as per CPWD Specifications-2019 with amendments issued on date.

2.4.2 The rate of item of reinforcement of RCC work includes all operations including straightening, cutting, bending, welding, binding with annealed steel or welding and placing in position at all the floors with all leads and lift complete as per CPWD Specifications-2019 with amendments issued on date.

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

2.5 PRE-CAST RCC WORK

2.5.1 The work shall be done in accordance with CPWD Specifications-2019 with amendments issued on date.

2.5.2 Pre-cast reinforced concrete units shall be of grade or mix as specified.
Provision shall be made in the mould to accommodate fixing devices such as hooks etc. and forming of notches and holes. Each unit shall be cast in one operation. A sample of the unit shall be got approved from Engineer-in-charge before taking up the work.

2.5.3 Pre-cast units shall be clearly marked to indicate the top of member and its location.

2.5.4 Pre-cast units shall be stored, transported and placed in position in such a manner that their edges are not damaged.

2.5.5 The compaction of the concrete shall be done by vibrating, table or external vibrator, as approved by Engineer-in-charge. The rate quoted for the item shall include the element for framework and mechanical vibration.

2.5.6 Rate for item includes cost of all materials. labour, and all operations involved. Cost of M.S. frames, lugs including their welding, lifting hooks is also included.

3.0 BRICK WORK: -

3.1 The brickwork shall be carried out with good quality well common burnt clay machine moulded modular bricks of class designation 12.5 as per CPWD Specifications-2019 with amendments issued on date.

3.2 The rate shall also include for leaving chases / notches for dowels / cramps for all kinds of cladding to come over brick work.

3.3 Brick work provided around shaft or lift walls or around slab cutouts shall be measured in the brick for corresponding floor level. Nothing extra shall be paid on this account.

3.4 M.S. bars provided at every third course of half brick masonry shall be in single piece. If required, welding joint can be used without overlaps. Nothing extra shall be paid for welding and overlaps.

4.0 STONE / MARBLE WORK :-

4.1 General: - The execution of stones work shall be in general as per CPWD Specifications-2019 with amendments issued on date.

4.2 SAMPLES FOR STONE WORK:-

Samples of each item of stone work either individually or in combination shall be prepared for approval of Engineer-in-charge before commencement of work.

5.0 WOOD WORK:-

5.1 The wood work in general shall be carried out as per CPWD Specifications-2019 with amendments issued on date.

5.2 The sample of timber to be used shall be deposited by the contractor with Engineer-in-charge before commencement of work.

5.3 Glazing for toilets shall be of translucent type.

5.4 The shape and size of beading shall be as per drawings. The joints of beading shall be mitred.

5.5 Timber shall be of specified species, good quality and well-seasoned. It shall have uniform colour, reasonably straight grains and shall be free from knots, cracks, shakes and sapwood. It shall be close grained. The contractor shall deposit the samples of species of timber to be used with the Engineer-in-Charge for testing before commencement of the work.

5.6 Wood work shall not be painted, oiled or otherwise treated before it has been approved by the Engineer-in-charge. All portion of timber including architrave abutting against masonry, concrete, stone or embedded in ground shall be painted with approved wood preservative or with boiling coal tar.

5.7 The contractor(s) shall produce cash voucher and certificates from approved Kiln Seasoning Plants about the timber used on the work having been kiln seasoned and

chemically treated by them, falling which it would not be so accepted as kiln seasoned and/or chemically treated.

5.8 Transparent sheet glass conforming to IS:2835–1977 shall be used. Thickness being governed as under unless otherwise specified in the item in wood work/steel work:

Area of Glazing	Thickness
(a) For glazing area up to 0.50 sqm	4.0 mm
(b) For glazing area more than 0.50 sqm	5.5 mm

5.9 Factory made panelled / wire gauge door shutters.

5.10 The work shall be executed through specialized agencies to be approved by the Engineer in Charge.

5.11 The shutters should be fabricated in factories & fabrication should conform to CPWD Specifications-2019 with amendments issued on date Para 9.6.6 & IS 1003 Part-I.

5.12 The contractor shall propose well in advance to Engineer-in-Charge, the names and address of the factory from where the contractor intends to get the shutters manufactured along with the credential of the firm. The contractor shall place the order for manufacturing of shutters only after obtaining approval of the Engineer in Charge whose decision in this case shall be final & binding. In case the firm is not found suitable he shall propose another factory. The factory may also be inspected by a group of officers before granting approval; shutters shall however he accepted only if these meet the specified test.

5.13 Contractor will arrange stage wise inspection of the shutters at factory by the Engineer-in-Charge or his authorized representative. The contractor will have no claim if the shutters brought at site in part or full lot are rejected by the Engineer-in-Charge due to bad workmanship / quality. Such defective shutters will not be measured and paid. The contractor shall remove the same from the site of work within 7 days after the written instruction in this regard are issued by the Engineer-in-Charge.

5.14 The shutters should be brought at site without primer/painting.

5.15 Inspection of shutters shall be carried out for dimensions & tolerances, size & type general construction & workmanship, finish & glazing at the following frequency:

Lot Size	**Sample Size.**	**Permissible number of defectiveness.**
Up to 25	2	0
26 to 50	8	1
51 to 100	13	1
101 to 150	20	1
151 to 300	32	1
301 to 500	50	2
501 & above	80	2

Note:

For lot size 25 or less no. of samples to be taken for testing shall be as agreed to between the manufacturer & Engineer-In-Charge.

Criteria for conformity :

Any sample shutter failing in any one or more of the requirements inspected for as above shall be considered as defective. A lot shall be considered as having satisfied the requirements of the standard if the number of defective shutters in the sample does not exceed the corresponding permissible number of **defectiveness** given above.

5.16 Testing – The shutters shall be tested for species, seasoning & treatment, defects in the timber, panel material, construction & workmanship in the approved Govt. Laboratory at the following frequency:

Lot Size	Sample Size
Up to 50	1
51 to 100	2
101 to 150	3
301 to 500	4
500 to 1000	6
1001 & above in multiple of 1000	10

If shutters are found defective in any one of the criteria, double the shutter shall be tested & if found permissible, can be accepted. If shutter is found defective in more than one criterion, the whole lot shall be rejected.

6.0 **STEEL WORK:-**

6.1 The work shall be carried out as per CPWD Specifications-2019 with amendments issued on date.

6.2 **Pressed Steel Frame/T-Iron Frames**: -

The work shall be done as per CPWD Specifications-2019 with amendments issued on date. The frames shall be fabricated in approved workshops as indicated in the NIT (if so explicitly indicated/if any) or as per the approval of the Engineer In-Charge.The angle and flat iron frames for cupboard shall also be fabricated from the above approved workshops.

6.3 **Steel windows/ventilators**:

The work shall be done strictly as per CPWD Specifications-2019 with amendments issued on date. Flash butt-welded steel windows / ventilators only shall be provided and shall be procured from the approved manufacturers. The corners should be welded to form a solid fused welded joint conforming to the requirement given below.

a) Weld shall be made all along the place of meeting the member.
b) Weld should be properly grounded.
c) Complete cross section of the corner shall form a solid joint with no cavities, free from cracks, under cutting, overlaps, gross porosity and entrapped slag.\

All sub dividing and glazing bars shall be tenoned & riveted into the frames i.e. all Centre mullion section F4B and glazing section T2, T6 shall not be directly welded to the frames. For this a slot has to be cut in the frames, the F4B / T2 / T6 section inserted into it & head be hydraulically tenoned & riveted by Tennon Rivetting Machine.

The thickness of projecting type hinges shall not be less than 3.15 mm. For fixing of hinges to outer frame, slot shall be cut, hinges inserted & welded at the back. For non-projected type hinges if allowed, the wall thickness shall not be less than 3 mm & total width not less than 40 mm. For fixing, the slot shall be cut in the fixed frames, hinge flap inserted & welded from the back.

The fixing lug shall be as per IS 1038 with adjustable slot & fixed to window frames by screws & nuts.

The fixing of unit shall be done as per IS 1081.

6.4 M.S. Sheet Door – M.S Sheet shall be in one piece i.e. no joint in M.S. Sheet shall be permitted.

7.0 FLOORING:-

7.1 All work in general shall be carried out as per CPWD Specifications-2019 with amendments issued on date.

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

7.3 Different stones / tiles used in pattern flooring shall be measured separately as defined in the nomenclature of the item and nothing extra for laying pattern flooring shall be paid over and above the quoted rate. No additional wastage, if any, shall be accounted for any extra payment.

7.4 Samples of flooring stones (Kota/ Marble/ Granite etc.) shall be deposited well in advance with the Engineer-in-Charge for approval. Approved samples should be kept at site with the Engineer-in-Charge and the same shall not be removed except with the written permission of Engineer-in-Charge. No payment whatsoever shall be made for these samples.

7.5 The Marble/ Kota/ Granite or any other stone shall be fully supported by the details establishing the quarry and its location.

7.6 Full width Marble/ Kota/ Granite stone over kitchen platform shall be provided which shall not be less than 900mm long except to adjust for closing pieces. The marble / stone flooring in treads and risers of staircase

shall not be less than 1500mm long except to adjust the closing pieces. Nothing extra shall be paid on these accounts

7.7 PVC& Wooden Flooring

The PVC & wooden flooring shall be procured from the approved manufacturer and work shall be carried out as per approved drawings and direction of Engineer-in-charge.

7.8 Ceramic/ Vitrified Tiles Flooring

The tiles shall be procured from the approved manufacture of the approved shade & colour.

The tile shall be conforming to IS-13755, IS-13753 and IS-15622 for floor and wall tiles respectively.

Size and sample of tiles in respect of each type of quarters shall be approved by Engineer-in-charge for kitchen and toilet prior to execution of work.

Tiles for flooring shall be 300 mm x 300 mm (minimum size) and for dado 300mmx450mm (minimum size) as approved by the Engineer-in-charge.
Test shall be conducted to satisfy the quality of material as per CPWD Specifications-2019 with amendments issued on date

7.9 Glass Mosaic Tile Flooring shall be with approved random colour mix design tiles and work shall be carried out as per direction of Engineer-in-charge.

7.10 The rate of items of flooring is inclusive of providing sunken flooring in bathrooms, kitchen etc. and nothing extra on this account is admissible. The proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard, etc. as per the directions of Engineer-in-charge.

8.0 WATER PROOFING FOR SUNKEN FLOORS:-

8.1 The work shall be got executed from the specialized agency as approved by the Engineer in Charge.

8.2 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approval of the make by Engineer-in-charge in writing. Materials shall be kept under double lock and key and proper account of the water proofing compound used in the work shall be maintained for ascertaining its exact usage and consumption. It shall be ensured that the consumption of the compound is as per specified requirements.

8.3 The finished surface after water proofing treatment shall have adequate smooth slope as per the direction of the Engineer-in-charge.

8.4 Before commencement of treatment on any surface, it shall be ensured that the outlet drain pipes / spouts have been fixed and the spout openings have been chased and rounded off properly for easy flow of water.

8.5 **GUARANTEE BOND:- (PUFF panel roofing)**

Ten years Guarantee bond in prescribed relevant/applicable proforma as indicated in the NIT shall be submitted by the contractor which shall also be Signed by both the specialized agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the building contractor. (Ten per cent) of the cost for leakage / seepage including junction of PUFF panel roofing work shall be retained as Security Deposit and the amount so deducted would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the treatment is found satisfactory. If any defect is noticed during the guarantee period, the contractor shall rectify it within 15 days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be carried out by engaging another agency at the risk and cost of contractor.

9.0. FINISHING:-

9.1 The work shall be done in accordance with CPWD Specifications-2019 with amendments issued on date.

9.2 All painting material of approved brand and manufacturer shall be brought to the site of work in the original sealed containers. The material brought to the site of work shall be sufficient for at least 30 days of work. The material shall be kept under the joint custody of contractor and representative of the Engineer-in-charge. The empty containers shall not be removed from the site till the completion of the work without permission of the Engineer-in-charge.

10.0 **SANITARY INSTALLATIONS /WATER SUPPLY / DRAINAGE:-**

10.1 The contractor shall submit schematic drawing of water supply and sanitary installation showing details of layout, including internal water supply and drainage details, showing the detail of water supply lines including fittings diameter wise and fixtures connecting to soil waste through traps and connection of W.C. to main shaft pipe for drainage including its ventilation system for approval of Engineer-in-Charge.

10.2 For the work of water supply and sanitary installations, the contractor shall engage the approved licensed plumbers and submit the name of proposed plumbing agencies with their credentials for approval of the Engineer-in-Charge.

10.3 The work in general shall be carried out as per CPWD Specifications-2019 with amendments issued on date.

10.4 The tendered rates shall include the cost of cutting holes in walls, floors, RCC slabs etc. wherever required and making good the same for which nothing extra shall be paid.

10.5 The Centrifugally spun cast iron pipe IS: 3989-1984 wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall be paid for on this account.

10.6 The pig lead to be used in the jointing should be as per CPWD Specifications-2019 with amendments issued on date.

10.7 The pig lead to be used in jointing should be as per C.P.W.D. Specifications.

10.8 Nothing extra for providing & fixing CP Brass caps /extension pieces wherever required for CP Brass fittings shall be paid beyond the rates payable for corresponding CP Brass fittings

10.9. The entire responsibility for the quality of work will however rest with the building contractor only and he shall submit a Guarantee Bond as per Proforma indicated in NIT. 10% (ten percent) of the cost of these items would be retained as security deposit and the amount so deducted would be released after two years from the date of completion of the entire work under the agreement, if the performance of the items is found satisfactory. If any defect is noticed during the guarantee period, the contractor should rectify it within seven days and if not attended to the same will be carried out by engaging another agency at the risk and cost of contractor. However, this security deposit can be released in full if bank guarantee of equivalent amount is produced and deposited with the department.

11.0 **Aluminium doors, windows, ventilators etc. glazing specifications**

11.1 **Extent and Intent:** - The work shall be carried out through an approved Special Agency, who shall furnish all material, labour, accessories, equipment, tool and plants and incidentals required for providing and installing anodized aluminium doors, windows,

claddings, louvers and other items as called for on the drawings. The drawings and specifications cover the major requirements only. The supplying of additional fastenings, accessories, fixtures and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract.

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

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

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

11.5. **Sections:** - Aluminium doors and windows shall be fabricated from extruded sections of profiles as detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-Charge. The aluminium extruded sections shall conform to BIS designation IIE/IIV 9 WP alloy, with chemical composition technical properties, as per IS: 733 and IS: 1285. The permissible tolerance of the extruded sections shall be such as not to impair the proper and smooth function/ operations and appearance of doors and windows.

11.6 **Fabrication:** -Doors, windows etc. shall be fabricated to sizes at factory and shall be of section, sizes, combinations and details as shown on the drawings. All doors, windows etc. shall have mechanical joints. The joints shall be deSigned to withstand a wind load of 150 Kg. Per Sqm. The design shall also incur that the maximum deflection of any member shall not exceed 1/175 of the span of the member. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joints accessories such as cleats, brackets etc. shall be of such material as not to cause any bimetallic action. The design of the joints and accessories shall be such that the accessories are fully concealed. The fabrication of doors, windows, etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring to support and fixing of hardware and other fixture as approved by the Architect.

11.7 **Anodizing:** -All aluminium sections shall be anodized as per IS: 7088 and to required colour as specified in the item as per IS: 1868 grading as specified in item schedule after cutting the member to requisite sizes before the final assembly. Anodizing confirming to specified grade with minimum average thickness of 15 microns when measured as per IS: 612. The anodic coating shall be properly sealed by steams or in boiling water are cold sealing process as per IS:1868/IS:6057.Polythene tape protection shall be applied on the anodised section before they are brought to site. All care shall be taken to ensure

surface protection during transportation, storage at site and installation. The tape protection shall be removed on installation. The sample will be tested in the approved laboratory and cost of samples; cost of testing etc. shall be borne by the contractor.

11.8 **Protection of finish:** All aluminium members shall be wrapped with approved self-adhesive non-staining. PVC tapes.

11.9 **Handling and Stacking:** -

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

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

11.9.3 The contractor shall be responsible for assembling composite, bedding and filling the grove with polysulphide sealant inside and outside, at transoms and mullions placing the doors, windows etc. in their respective openings. After the doors/ windows have been fixed in their correct assigned position, the open hollow sections abutting masonry concrete shall be fitted with approved polysulphide sealant densely packed and finished neat.

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

11.10 **. Installation**: -

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

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

11.11 **.PVC/Neoprene gaskets:**-

The contractor shall provide and install PVC/Neoprene gaskets of approved size and profile at all locations as shown and as called for to render the doors, windows etc. absolutely air tight and weather tight. The contractor shall produce samples of the gaskets for approval and shall procure the same after approval only.

11.12 **.Fittings:** -

Hinges, stays, handles, tower bolts, locks and other fittings shall be of quality and manufacturer as approved by the Engineer-in-Charge.

11.13 **.Manufacturer's Attendance:**-

The manufacturer immediately prior to the commencement of glazing shall adjust and set all windows and doors and accept responsibility for the satisfactory working of the opening frames.

11.14.**Poly-sulphide:** -

The gaps between frames and supports and also any gaps in the door and windows sections shall be raked out as directed and filled with poly-sulphide of approved colour and make to ensure complete water tightness. The poly-sulphide shall be of such colour and composition that it would not stain the masonry/concrete work, shall receive paint without bleeding, will not sag or run and shall not set hard or dry out under any conditions of weather. The sample of poly-sulphide to be used for this purpose shall be got approved from the architect before its actual use.

11.15 **Details of Test:** -

11.15.1. The various tests on aluminium sections shall be conducted in accordance with the relevant IS codes.

11.15.2. The minimum number of tests for anodizing and corrosion resistance shall be as given below: -

Sr.No.	Details	No. of Tests
1.	Doors, windows and ventilators	One test for every 1000 kg or part thereof.

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

11.16.**Acceptance Criteria:**- The aluminium work shall carry two years guarantee after completion of work against unsound material, workmanship and defective anodizing/ powder coating as per guarantee bond. Two years guarantee in prescribed Performa attached under sheet V-7 must be given by the specified firm, which shall be counter Signed by the contractor, in token of his overall responsibility. 10% (ten percent) of the cost of these items would be retained as security deposit and the amount so deducted would be released after two years from the date of completion of the entire work under the agreement, if the performance of the items is found satisfactory. If any defect is noticed during the guarantee period, the contractor should rectify it within seven days and if not attended to the same will be carried out by engaging another agency at the

risk and cost of contractor. However, this security deposit can be released in full if bank guarantee of equivalent amount is produced and deposited with the department.

11.17 **Rates:** -

11.17.1. The rates of the item shall include the cost of materials, labour required in all the above operations.

11.17.2 The rates include the cost of hinges/ pivots and rest of the fittings shall be paid separately.

12.0 SPECIFICATIONS FOR SOLID POLY VINYL CHLORIDE (PVC) DOOR SHUTTERS:

12.1. SCOPE:

12.1.1.This specification lays down requirement regarding types, sizes, material, construction, workmanship, finish, performance evaluation, sampling and testing of solid Poly Vinyl Chloride (PVC) Panelled door shutters for use in residential buildings, non-residential buildings such as offices, schools, hospitals, etc.

12.1.2.This specification does not cover large size door shutters for industrial and special buildings such as workshops, garages, godowns etc.

12.1.3 PVC door shutters shall be used in internal locations only.

12.2.0 REFERENCES:

12.2.1. The Indian Standards and other Standards listed in Annexure-I are necessary adjuncts to this standard. The products bearing BIS certification i.e. ISI Mark with code number shall have precedence over those not bearing ISI Mark.

12.3.0 TERMINOLOGY:

12.3.1. For the purpose of this specification, the definitions given below in addition to those given in IS 707-1976 shall apply:

12.3.1.1

(i) Blistering: Air or solvent entrapped during moulding.
(ii) Colour blots: Colour blots occurring on account of uneven distribution of pigment.
(iii) Crazing: Fine hair cracks on the surface.
(iv) Defective Impregnation: Imperfect impregnation of PVC resin with other additives.
(v) Colour Fading: Fading of colour on exposure to sunlight.
(vi) Impurities: Presence of matter other than those specified.
(vii) Pin holes: Pores of size less than 1mm appearing on the surface.
(viii) Small Pores: Pores of size more than 1mm but less than 2mm appearing on the surface.
(ix) Wrinkling: A slight ridge or furrow on surface.
(x) Aggregate Defects: Presence of defects such as pin holes, impurities and traces of mending 5 or more in aggregate for defects at localized place.

12.4. HANDLING:

12.4.1. Handling and direction of closing of shutters shall be designated in accordance with IS: 4043:1969.

12.5.0 **MATERIAL**:

12.5.1. Poly Vinyl Chloride Resin (suspension grade) is the basic raw material of PVC compound. PVC resin in mixed with chemicals like calcium searate, hydrocarbon Wax, Titanium dioxide, calcium carbonate Acrylic base etc. Further additives like UV stabilizers, impact modifiers, pigments, epoxy plasticizer, lubricants, acrylic processing aid etc. are also added. The purpose of adding the chemicals and additives is to impart strength, surface finish, colour and resistance to fading by light rays. These chemicals are mixed in the desired proportion and shall be used in the formulation of PVC material and for free and smooth extrusion of PVC cellular sheets.

12.6.0. **PROCESS**:

12.6.1.MIXING: The PVC material so formulated with the addition of chemicals; fillers & additives shall be mixed dry powder form in a high-speed hot mixer at a temperature of 110^0 C to 125^0 C. The heated dry blend is then to be cooled at room temperature. However, the temperature has to be determined keeping in view the climatic conditions and the process requirements.

12.6.2.EXTRUSION:The cooled dry blend is off loaded into the hopper of the extruder, and then is fed to the screw & barrel of the extruder, where it is melted and kneaded at varying temperatures up-to 205^0 C by rotating screws. The thick paste of PVC material is then passed through a hot die to make the sheet of required thickness.

12.6.3.POLISHING: The basic shape of the sheet so acquired is then polished with the help of a three-roll calendar. At the same time the sheet is cooled by circulating water in the rolls of the calendar and thereafter on a roller table by atmospheric air.

12.6.4.**CUTTING:** The final finished product coming out of the haul-off is cut as per the required size.+

12.7.0. RANGE OF PVC PANELLED DOOR SHUTTERS:

12.7.1.For the purpose of this specification, solid panelled door shutter of thickness 30/32mm has been considered to meet the requirements of various users. The different components required for the door shutters are given in table No. 1 in annexure.

12.8.0 CONSTRUCTION/FABRICATION:

12.8.1. **GENERAL:**

12.8.1.1 The door shutters shall be manufactured under controlled conditions in factories having adequate facilities for working with PVC cellular sheet including moulding, cutting and jointing, fabrication etc.

12.8.1.2 While manufacturing door shutters, only components indicated in Table No. 1 shall be used for the shutter.

12.8.1.3 PVC door shutter shall be made out of the extruded PVC cellular sheets for styles, top rail, middle and bottom rail and panelling as given in Table No. 1

12.8.1.4 All the members of the door shutter shall be straight, smooth and well planned at right angles to each other. Any warp or bow shall not be more than 1.50mm.

12.8.2. FABRICATION OF SHUTTER:

12.8.2.1 **Steel frame**: Mild Steel square tube of specified size shall be cut to required size and welded at the corners to form steel door frames. It should be painted with red oxide anticorrosive paint.

12.8.2.2 **PVC Styles**: Styles made of PVC Cellular sheet shall be cut to required length and width, which shall be then "V" grooved in parallel to the required thickness of the doors. The "V" grooves are heated by hot air under controlled temperature and moulded to form "C" sections.

12.8.2.3 **PVC Rails**: Top Rail, Bottom Rail and Lock Rail are made of PVC Cellular sheets by cutting the sheets to the required size.

12.8.2.4 PVC Panel: Panel made of PVC cellular sheet of 5mm thickness shall be cut to required size in length and width.

12.8.2.5 The PVC Panel shall be inserted in between the MS Frame, then the PVC Styles and Rails shall be bonded on the length and width sides of frames. The gap between the Panel and the "C" section of styles and rails shall be filled up with PVC beading and bonded. Lock rail at the centre shall be bonded on the either side of PVC. The gap between the top and bottom surface is filled by PVC sheet strips called gap inserts to completely seal the door.

12.8.3 FIXING OF THE SHUTTER:

12.8.3.1 The PVC door shutter as fabricated above should be fixed to the door frame of M.S. T-iron long counter sunk fully threaded parallel shank steel screws. In case the PVC shutter is to be fixed to wooden frame/PVC frame, the screws to be used in the butt hinge shall be No. 10-40mm counter sunk fully threaded parallel shank steel screws. For fixing butt hinges to PVC shutter, use No. 10-40mm long counter sunk fully threaded parallel shank steel screws. All the screws should be screwed in by screw driver and in no case these shall be hammered.

12.8.3.2 Each door shutter shall be fixed to the frame with 4 hinges of required size unless otherwise specified by the purchaser. The top and bottom hinges shall be fixed at location 200mm below top and 200mm above bottom of shutter. The remaining two hinges shall be places at one-third distance between top and bottom hinges.

12.8.3.3 For cupboard shutters, side hung of height up to 1.20metre, each leaf shall be hung on piano hinges and for shutter of height more than 1.2 meter, each leaf shall be hung on three M.S. butt hinges of required size at quarter points. On shutter side the screws to be used in butt hinges shall be No. 10x25mm long counter sunk fully threaded parallel shank steel screws. On door frame side screws to be used in the butt hinges shall be No. 10-12mm counter sunk fully threaded parallel shank steel screws in case T-iron frame is used. And in case of wooden door frames, screws shall be No. 10-25mm long counter sunk fully threaded parallel shank steel screws.

12.8.3.4 All screws shall be counter sunk fully threaded parallel shank steel screws only, unless otherwise specified. All the screws shall be screwed in with screw driver only and in no circumstances, screws shall be hammered in.

12.8.4. FITTINGS AND ACCESSORIES:

12.8.4.1 Door stoppers aluminium/brass: These shall be fixed to the door shutter as required by the purchaser as per size and shape approved by him. Cleats and blocks of wood should not be used in any circumstances.
Fittings other than hinges like pull bolt lock, mortice lock, latch floor door stoppers etc. confirming to CPWD specification 2019 Vol. I & II shall be provided as per the schedule of fitting decided by the purchaser.

12.8.4.2 Mortice lock or latches: Shutter shall be shop prepared for taking mortice locks or latches as may be ordered. Shop preparing the door with morticed holes for lock fixing shall be done when desired by the purchaser.

12.9.0 DIMENSIONS, SIZES AND TOLERANCES:

TABLE 1 : -Dimension of Door Shutters

Sr. No	Type of Shutter	Sizes (mm)	Thickness	PVC Sheet Section Used							
				Styles		Beading		Rails		Panel Thick Ness	M.S. Sq. Tube
				T	W	T	W	T	W		
1.	Panel door shutter DS1(A)	730W – 2060 H	30mm	5	50	5	25	5	t=75 l=75 b=75	5	19x19
2.	Panel door shutter DS2(A)	830W – 2060 H	30mm	5	75	5	50	5	t=100 l=100 b=100	5	19x19
3.	Panel door shutter DS3(A)	930W – 2060 H	30mm	5	75	5	50	5	t=100 l=100 b=100	5	19x19
4.	Panel door shutter DS1(B)	700W – 2045 H	30mm	5	50	5	25	5	t=75 l=75 b=75	5	19x19
5.	Panel door shutter DS2(B)	800W – 2045 H	30mm	5	75	5	50	5	t=100 l=100 b=100	5	20x20
6.	Panel door shutter DS3(B)	900W – 2045 H	30mm	5	75	5	50	5	t=100 l=100 b=100	5	19x19

Note:

T = Thickness
W = Width

t = top rail
l = lock rail
b = bottom rail

12.10.2 PVC foam sheet shall not exceed the tolerances given below:

Sheet Thickness (mm)	Tolerance (mm)
1	+ 0.15
2	+ 0.20
3	+ 0.25
4	+ 0.30
5	+ 0.35
6	+ 0.40
8	+ 0.50

10	+ 0.60
13	+ 0.75
19	+ 1.05

Note: - Generally, the PVC sheet used for the panel door shutter is of 5 mm thickness.

Tolerance :

(i) On weight of PVC section + 10 percent.

(ii) On weight of galvanized M.S. square tubes, M.S. rods + 5 percent (M.S. square/rectangular tubes to conform IS: 4923-1986).

(iii) On width and height of shutter + 3mm.

(iv) The tolerance in the thickness of door shutter shall be + 1mm. The thickness of door shutter shall be uniform through out with a permissible variation of not more than 0.8mm when measured between any two points.

Sizes and Types of Door Shutters :

Sizes and types of door shutters shall generally conform to the modular sizes specified in Table-2.

TABLE-2 DIMENSION OF DOOR SHUTTERS

S. No.	**Designation**	**Size: A**		**Size: B**	Height (mm)
		Width (mm)	Height (mm)	Width (mm)	
1	DS 1	730	2060	700	2045
2	DS 2	830	2060	800	2045
3	DS 3	930	2060	900	2045

Note 1 D = Door, S = Single Shutter

Note 2 The designation indicates the size of door opening, the first number referring to width in modules of 10cm and the last number the height in modules of 10cm above finished floor level.

Note 3 Standard sizes of pressed steel and T-iron door frames are covered in CPWD Specification 2019 Vol. I & II.

Note 4 Manufactures may supply non-modular size by mutual agreement, if so, specifically ordered by the purchaser.

Note 5(i) Shutters used with frames of T-iron or pressed steel conforming to CPWD Specifications-2019 with amendments issued on date 2019 Vol. I & II.

12.10.3 Shutters used with frames of timber or precast reinforced concrete conforming to IS: 4021-1983 and IS: 6523-1983 respectively shall be of size B.

Sizes of the Cup Board shutters shall be as required by the purchaser.

12.11 **WORKMANSHIP AND FINISH**

12.11.1 The surface of the shutters shall be free from any visible defects such as small pores, crazing, blistering, wrinkling, impurities, defective impregnation and colour blots.

12.11.2 Panels of the door shutters shall be flat and shall have smooth and level surface.

12.11.3 All the four edge of the door shutter shall be square. The shutter shall be free from Twist or Wrap in its plane.

12.11.4 The colour of the door shall be as mutually agreed between the purchaser and the manufacturer, which would be selected by the purchaser from the available range of colours being manufactured before placing order.

12.11.5 Scattered pin holes duly repaired and finished by applying resin and not noticeable shall be accepted.

12.11.6 No painting, primer is to be applied on the PVC door shutter.

12.12 TEST

12.12.1 TEST ON SHUTTERS

12.12.1.1 The tests as per Table–3 shall be carried out by the manufacturer on door shutters. The method of carrying out the tests shall be as per IS: 4020-1994. Acceptability criteria shall be as mentioned against each test.

TABLE NO. 3 TEST ON DOOR SHUTTER

Sr. No.	Test	Acceptable criteria
1.	Dimensions and defects of squareness Test	As per IS: 4020-1994
2.	General Flatness Test	--do--
3.	Local Planeness Test*	--do--
4.	Impact Indentation Test	--do--
5.	Edge loading Test	--do--
6.	Buckling Test	--do--
7.	Misuse Test	--do--
8.	Slamming Test	--do--
9.	Shock Resistance Test	--do--
10.	Screw Holding Power Test	--do--

* Local planeness test shall be carried out on the rails, styles and panels separately.

12.12.2 Test on Material

12.12.2.1 Test as per Table–4 shall be conducted on PVC sheet cut form the door shutter. The method of carrying out the test shall be as per reference code mentioned against each test. Acceptance Criteria shall be as given against each test.

TABLE–4 TEST ON PVC MATERIALS

Sr. No.	Test	Test Method as per	Acceptable Value
1.	Density (at 27^0 C)	DIN 53479	Not less than 0.50 gm/cc
2.	Tensile strength at yield	DIN 53455	10 Mpa
3.	Elongation at Break	DIN 53455	Not less than 30%
4.	Impact Strength (IZOD) (Charpy unotched)	DIN 53453	Not less than 15 kg/m^3
5.	Hardness	DIN 53456	Not less than 25 N/mm^2
6.	Compressive strength at 10% strain	ASTMD – 695	Not less than 8.83 kg/cm^2
7.	Flexural stress	DIN 53452	Not less than 20 Mpa
8.	Thermal Conductivity	DIN 52612	0.059 W/mk

9.	Water absorption after 96 hrs.	DIN 53495	Below 1 %
10.	Fire Rating	BS 476	Bl

12.13. LIST OF REFERRED INDIAN & OTHER STANDARDS

IS No.	TITLE
IS: 707-1976	Glossary of terms applicable to timber technology and utilization.
IS: 4020-1994	Door shutters – Methods of tests
IS:4043-1969	Recommendations for symbolic designation of direction closing and faces of doors, windows and shutters
IS: 10428-1983	Glossary of terms applicable to doors.
ISI	Specifications for testing of PVC materials 3360 (Pt-3/Sec.1) Density 3360 (Pt-5/Sec.3) Tensile Strength 3360 (Pt-5/Sec.3) Elongation at break 3360 (Pt-5/Sec.4) Impact Strength 3360 (Pt-5/Sec.12) Hardness 3360 (Pt-5/Sec.8) Compressive Strength 3360 (Pt-5/Sec.7) Flexural Strength 3360 (Pt-8/Sec.1) Water Absorption Fire Retardancy

12.14.SAMPLING AND CRITERIA FOR CONFORMITY

12.14.1 Lot in any consignment, all shutters of the same grade and type and manufactured under similar conditions of production shall be grouped together to form a lot.

12.14.2 The number of shutters to be selected at random from a lot shall depend upon its size and shall be in accordance with table (given below).Column 2 & 3 pertain to tests for Dimensions and defects of squareness test, general flatness test and local planeness test.

TABLE – SAMPLE SIZE AND CRITERIA FOR CONFORMITY

Lot Size	Sample Size	Permissible No. of Defects	Sample size	Permissible No. of Defects
1	2	3	4	5
26 to 50	5	0	1	0
51 to 100	8	0	1	0
101 to 150	13	1	2	0
151 to 300	20	2	3	0
301 to 500	32	3	5	0
501 to 1000	50	5	10	1
1001 and above	80	7	15	2

Note: For lot size 25 or less, number of samples to be taken for testing shall be as agreed to between the purchaser and the seller/ manufacturer.

12.15.PVC RIGID PANEL DOOR SHUTTER

12.15.1 SPECIFICATIONS**:** - Providing and fixing of factory made 30mm thick PVC rigid foam PANEL DOOR SHUTTER made from M S tubular frame of 19 gauge of size 19 x 19mm for styles and 15 x15mm for top and bottom tails and covered with 5mm thick heat moulded PVC 'C' channel having width of 50mm to form styles and PVC sheet of width 75mm to form lock rail, bottom rail and top rail on either side. The inner panel should be inserted with 5mm thick PVC sheet sealed with solvent cement adhesive to the styles and rails with 5mm x 25mm PVC sheet beading on either side.

12.15.2 WIREMESH : - To make wire mesh door instead of panel insert of 5mm PVC sheet, wire mesh of suitable gauge can be inserted & and sealed to the styles and rails using PVC beading.

12.15.3 LOUVERS : -The door shutters can be provided with louvers for the clear opening of 450x300mm at the bottom including one additional horizontal rail of size 50mm x 30mm and two vertical styles of size 50x30mm to accommodate the 5mm thick, 40mm wide PVC sheet louvers (eight Nos.) along with side 25mmx5mm size PVC sheet lapping with slant slots of 5mm width for fixing the louvers in position with PVC cement solvent adhesive and then providing 10mmx5mm size PVC sheet beading on two vertical sides with self-tapping sheet metal screws etc. complete.

Note: Width of styles and rails will vary with the size of door; Recommended size of styles and rails is given in the table.

TABLE OF STYLES AND RAILS

Door width	**Styles Size**	**Rails Size**
600mm to 750mm	50mm	75mm
750mm to 900mm	75mm	100mm
900mm and above	100mm	125mm

13.0 SPECIFICATION FOR STONE MASONRY

13.1 The stone shall be sound hard free and decay and weathering, they shall be approved quality. Discolored or distorted stone with boulder skin or earthy or porous matter of stones with round surface shall not be used. The face stone shall be procured from the approved quarry and other stone also should be procured from approved quarry.

13.2 The stone shall be hammer dressed on all head joints. Faces shall be accurately squared and all face joints shall be dressed at right angle. The face of the stone shall be dressed and bushing shall not project more than 40mm.

13.3 MORTAR:- The mortar used for joining shall be as specific.

13.4 LAYING:- All stones shall be thoroughly wetted before use. No more than two stones shall be used in the height of course.

13.5 The wall shall be carried up truly in plumb. All courses shall be laid truly horizontal and all join shall be truly vertical. The stones shall break joints at least half the height of the course. No pinning shall be allowed on the face.

13.6 The depth of each course shall not be less then 13cm. and more that 23 cm. No course shall be of greater depth than any course below the height shall not exceeded the breadth of stones of the face. No stone shall tail into the wall's less than twice their height.

13.7 The masonry shall be carried up regularly. When the masonry of the part has to be delayed, the work shall be raked back at angle not exceeding 45-degree, toothing shall not be allowed.

13.8 BOND STONES:- Bond or through stone running right through walls shall be provided in each course at 152 cm. intervals. If the wall is more than 60 cm laid from face to back. These stones (or lines or stones) shall break joints by overlapping at least 15 cm. header or thought stone shall not be less than 45 cm long for walls up to 152 cm thick and at least 50 cm for thicker walls.

13.8.1. In case proper size of bond stone are not available bonds cements concrete 1:3:6(1 cement: 3 sand: 6 hard stone ballast 20mm and down gauge) right through the walls may be provided in each course at 5 feet interval with the special permission of the Engineer-in-charge but nothing extra shall be paid for this substitution.

13.9 **JOINTS:-** Stone shall be laid that all joints are full of mortar. Joints shall not be more than 20mm thick. No punning shall allowed on the face.

13.10 Where plastering or pointing is not required to be done, the joints shall be struck flush and finished at the time of laying.

13.11 .Quoins shall be from stones at least 45 cm. long laid stretcher and alternatively.

13.12 **INTERIOR FACE:-** The work on the interior face shall be precisely the same as on the other face and backing at no stage shall be leveled up with chips. The hearting or backing shall be carried up simultaneously with facing.

13.13.**HEARTING:-** Hearting shall consist of flat bedded stones carefully laid on their proper beds and solidly bedded in mortar chips and spells of stones being wedged in wherever necessary so as to avoid thick beds on joints or mortar, care being taken that no dry work or hollow space shall be left anywhere in masonry. The percentage of stones chips for filling of interstices between the adjacent stones shall not exceed 10% of the quantity of stone masonry.

13.14 Suitable sizes of weep holes shall be left in the Retaining wall at suitable places as per direction of Engineer-in-charge and nothing extra shall be paid for the same.

13.15.**CURING:-** Green work shall be protection from the effects of sun, rain etc. by suitable covering. It shall be kept consequently moist of on all the faces for a period of at least 7 days. The top of masonry of the work shall be left flooded at the end of each work.

13.16.RETAINING WALLS IN COURSED RUBBLE DRY MASONRY WITH BANDS OF COURSED RUBBLE MASONRY LAID MORTAR: The specification of retaining wall in hammer dressed masonry will similar to the specification for coursed rubble masonry in cement except for:-

13.16.1. The mortar will be used only in bands as per drawing. Rest masonry will be dry. The space in hearting will be thoroughly packed with sprawls.

13.16.2. The back space in hearting will be kept vertical unless otherwise ordered and from face given required better.

13.16.3 Courses will be laid perpendicular to front face.

13.16.4 The stone used for Retaining walls at face shall be procured from the approved quarry. The rates of stone masonry for the items of retaining walls/ brest walls in dry and cement mortar masonry will be for all heights and depths. Nothing extra shall be payable beyond the quoted rates.

14. <u>Special condition for contractor:</u>

14.1 Nothing extra shall be paid on a/c of manual lead and lift for shifting of material at site.

14.2 Malba shall be disposed at approved municipal dumping ground or any other location as approved by Engineer-in-charge. It will be responsibility of the contactor to locate the dumping ground for all lead and lift at his own cost for which noting extra shall be payable on this account.

15. The CPWD specifications(civil) Vol-I & II 2019 shall be forming part of this tender & made applicable for its adherence in toto.

Superintending Er.,
AIIMS Bilaspur, HP

PROFORMA FOR TESTS CARRIED OUT

NAME OF THE WORK : DIVISION/

AGREEMENT NO. & DATE : SUB-DIVISION

Name of Contractor:-

R.A Bill No. :-

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

Signature of Contractor

LIST OF PREFERRED MAKES FOR CIVIL WORKS

S. No.	Material	Approved Make
1	(i) 43 Grade Ordinary Portland Cement / Portland Pozzolona Cement.	ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, Century Cement, J.K. Cement.
	(ii) White Cement	Birla White , J. White,
2	Reinforcement Steel (TMT-Fe500)	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd (RINL), JINDAL.
3	Water Proofing Compounds, Plasticizer, Super Plasticizer, Grouts, Polymers, Polyexpanse, Other construction chemicals	Weber, Fosroc, Pidilite, CICO, Sika, Huntsman (CibaGeigy),Ferrous Crete MYK Arment
4	Tubular truss / Structural Steel	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd (RINL), Jindal. APL APOLLO
5	Poly carbonate Sheet	GE Plastic, LEXAN
6	Decking steel sheet	Ezydeck of TATA / Lloyd Superdeck
7	Admixtures	Fosroc, MBT, Sika, CICO, Asian
8	Particle Board	Kitply, Action TESA, Greenlam, Merino, Century.
9	Laminated Particle Board/ Laminates, plywood	Kitply, Action TESA, Greenlam, Century Ply, Merino, Sunmic, Archid ply
10	Flush door shutters/Factory made paneled door shutters	Duro, Kutty, Century, Green, Jayna, Merino, Jain Doors Pvt. Ltd.
11	Fire Rated Doors	Signum Fire Protection, Kutty Doors, Shakti Metdoor, NAVAIR, ROMAT, Synergy Thrislington, Promat International, Jain Door Pvt. Ltd.
12	**False Ceiling System along with supporting grid and metallic tiles**	**Armstrong, Hunter Douglas, Saint Gobain, Aura(ASIPL), Diamond International Inex Pvt. Ltd. Gyptech, Hi Steel ,USG Boral,Aerolite**
13	Plywood/Veneer/ Board	Green, Century, Merino, Duro, Archid ply, Kitply,Virgo
14	Melamine Polish	Asian Paints Melamine Gold, Wudfin of Pidilite, Timbertone of ICI Dulux.
15	FloorSpring	HARDWYN, Godrej, Dorma, Dorset
16	Anodised Aluminium Hardware (Heavy Duty)	Kilong, Alualpha, Sigma, Classic, Hardima
17	Clear/Float/Frosted Glass	Saint Gobain, AIS, Pilkington
18	Stainless Steel Railing, Accessories etc.	JINDAL, Dorma, GEZE
19	Hermitically sealed performance glass & Toughened Glass	Saint Gobain, MODI, ASAHI
20	Fire rated vision Panels	Pilkington, SCHOTT, FERILITE, Saint Gobain. Jain Door Pvt. Ltd.
21	Skylight –Thermoform	Mccoy Architectural System,Vergola, Abucob

22	G.I. Steel doorframe	Kutty Doors, Shakti Metdoor, NAVAIR,ROMAT, Synergy Thrislington.
23	Friction Stay Hinges	Earl-Bihari,Ebco, Rotto, Cotswold, GU, Dorset
24	EPDM Gasket	Hanu, Osaka, Avigiri, Alps, Anand
25	Glass processor for making DGU/Toughening	AIS, Art N Glass (Chandigarh), Kochar Glass Pvt. Ltd. (Bhopal), Kaenal Glass (Bhiwadi), GSE (Noida)
26	Polyester Powder Coating Shades	NEROLAC, BERGER,J&N
27	Silicon based water repellant /Weather Sealant	G.E. Plastics, Dow Corning, BECKER
28	Poly-Sulphide Sealant	Fosroc, Pidilite / Sika
29	Mosaic tiles/ Chequered Tiles	Ultra Tiles, Unitile, NITCO, NTC, Pooja Concrete Fabricators
30	Ceramic Tiles / Glazedtiles	Morbito, Somany, RAK,Kajaria, Sunhearrt
31	Vitrified Tiles (Antiskid/Matt/Glazed)	Morbito, Somany, RAK, Kajaria, Sunhearrt
32	PVC Flooring	Armstrong, Unitex, LG Houses
33	Paver block & Kerb Stone	NITCO, Unitile, NTC, Ultra, Pooja Concrete Fabricators
34	Tile/ Stone Adhesive	Pidilite, Bal Endura, Fosroc,Ferrous Crete, Ultratech, Basex
35	Grouting Compound	BalEndura,Pidilite,Fosroc,FerrousCrete
36	Dash / Anchoring Fasteners	HILTI, Fischer, Bosch, Wurth.
37	Nuts / Bolts &Screws	GKW, Hilti,
38	Wall putty	Birla wall care, JK White, Sara wall putty
39	Curing compound	Fosroc, Sika, Cico
40	Oil Bound Washable Distemper	Asian Paints Smartcare,ICI (Maxilite), Burger,
41	Acrylic Distemper	Bison(Berger), Tractor(Asian), Maxilite (ICI)
42	Premium Acrylic Emulsion Paints	ICI(Supersmooth),Nerolac(Beautygold),AsianPaints(Premiumemulsion/professional interioremulsion), Burger, Asian Paints Smartcare
43	Cement Primer	BP White(Berger), Decoprime WT(Asian), White primer (ICI)
44	Steel Primer	ICI, Nerolac, AsianPaints
45	Wood Primer	ICI, Nerolac, AsianPaints (White)
46	Textured Exterior Paint	Asian paints (Apex with honeycomb roller finish) ICI (Weather shield with honeycomb roller finish, Kansai Nerolac(Excel with honeycomb roller finish), Asian Paints Smartcare
47	Synthetic Enamel Paint	Asian (Apcolite Premium gloss enamel),ICI (Dulux gloss synthetic enamel), Kansai Nerolac (Synthetic enamel), Asian Paints Smartcare
48	Epoxy Paint	Asian, ICI, Kansai Nerolac, Asian Paints

		Smartcare MYK
49	Fire Paint	Akzo Nobel Coatings India Ltd., PROMAT, Jotun, Asian Paints Smartcare
50	G.I. / M.S. Pipe	Tata, Jindal (Hisar)
51	G.I.Fittings	Unik, AVR,Zoloto, SANT
52	HDPE Pipes	Reliance, JainPipes, ORIPLAST
53	DIPIPES	Electro steel, Jindal, TATADUCTURA
54	DI Fittings	Kartar ,Electro steel
55	CI Fittings	Neel , Kartar ,Sarkar
56	CI Double flanged sluice valve	Kirloskar, Sondhi, Kejriwal, Leader Zoloto
57	Float Valve	L&K, Leader, Zoloto, JAINKO
58	UPVC pipe and Fittings	Astral, Supreme, Finolex
59	Centrifugally Cast(spun) Iron Pipes & Fittings	NECO, Kapilansh, SKF , BIC, RPMF
60	Centrifugally Cast (spun)Iron(Class LA) Pipes	Neco, Electro Steel, Kapilansh, RPMF
61	C.I. Manhole covers, frames & GI Gratings	NECO, RAJ Iron Foundary Agra,BIC, SKF, RPMF
62	SFRC Manhole covers & gratings	KK, JAIN,PARGATI, RPMF
63	Gun metal Valves ,globes	Sant, Leader,Zoloto
64	CP Brass Fittings	Jaquar, Kohler, Parryware, Hindware, Somany, M/s Shakti Enterprises
65	Sanitary Fittings & accessories	Jaquar, Kohler, Parryware, Hindware, Somany
66	Water Meter	Prima, Kranti, Leader, Zoloto, Dashmesh
67	Brass stop & Bib Cock	Zoloto,Sant, L&K, Leader, JAINKO
68	Mirror Glass	Atul, Modi Guard, GoldenFish, M/s Shakti Enterprises
69	U-PVC Pipe	Astral, Supreme, Finolex
70	PVC Pipe &Fittings	Supreme, Finolex, Kisan
71	Non-Return valve (Check valve) ½" to 1¼"	Zoloto, Sant, Leader
72	Brass Ferrules	Dhawan Sanitary Udyog (PRIMA), Kalsi, Annapurna
73	Insulation for hot water pipes	KAIFLEX , ARMAFLEX,CareFLEX
74	Insulation for external / exposed hot water pipes	KAIFLEX , ARMAFLEX,CareFLEX
75	Pipe protection for external water supply pipes	PYPKOTE, ARMAFLEX, AKPOLYKOTE,
76	Toilet Cubicles	Merino Industries Ltd (Titan Series), Green Sturdo, Green Ply Industries Ltd (Green lam Sturdo Classic),Trespa, Dorma
77	Hardware & Door fittings	Dorma, Kich, Ozone, Dorset
78	Door closer	Dorma, Kich, Godrej
79	Stainless Steel Sink (Out of Salem steel)	Neelkanth, Niralli, Jyna, JAINKO
80	European WC	Hindware, Parryware, Kohler, Jaquar, Somany
81	Washbasin	Hindware, Parryware,Kohler, Jaquar,

		Somany
82	Urinals	Hindware, Parryware, Jaquar, Kohler, Somany
83	CPVC Pipes & Fittings	Finolex, Supreme, Ashirwad, Astra
84	Stone ware pipes	Perfect, Taya
85	Gully Traps	Perfect, Parry
86	RCC Pipes (NP-2)	Lakshmi, Sood & Sood, Jain & Co.
87	Atactic Polypropylene	STP, HTL, Hydro Tech Ltd., Pidilite
88	UPVC Doors & Windows	Fenesta, Aluplast , Prizma Winsol Pvt. Ltd. ,Veka
89	Extruded Polystrene Insulation Board	Dowcorning, Supreme, Texas, Analco
90	Heat Resistant Tiles	Swastik, Thermax
91	Gypsum Plaster	Ferrous Crete, Gyproc Saint Gobain, Boral
92	Floor hardener	Ironite, Ferrok, Hardonate
93	Modular Expansion Joint	Herculus, CS, Vexcolt. Devin.
94.	Galvanised steel sheets (uncoated & pre-coated)	SAIL, TATA, JINDAL
95.	Furniture	Godrej, HNI, Steel Case, Howorth or equivalent other make as approved by client and Engineer-in-charge.
96.	Wooden laminated Flooring	Green Ply, Pergo, Armstrong , Action Tesa.
97.	PUFF panel roofing	ACME, LLOYED, SYNERGY
98	Water storage tank	Sintex, Frontline Super, Vectus, Kaveri, Sheetal
99.	Furniture makes	GODRAJ, HAWORTH, FEATHERLITE, STEELCASE
100	Anti-Bacterial Vinyl Flooring	Insignia, Gerflor, Wonderfloor, Tarkett

Note: - The Superintending Er, AIIMS Bilaspur H.P reserves the right to add or delete any materials and Brands in the list of preferred materials/brands.

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Note: - The Contractor shall procure and provide all the materials from the manufacturers/ suppliers as per the above list, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contactor for non-availability of the brand specified and also subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. Nothing extra shall be payable on this account.

SCHEDULE OF QUANTITY

Sr. No.	Description	Unit	Qty	Rate	Total Amount
1	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fiber and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns as per CPWD Specification 2019, to be laid in true horizontal level suspended on inter locking metal T-Grid of hot dipped galvanized iron section of 0.33 mm thick (galvanized @ 120 grams per sqm including both sides)comprising of main-T runners of size 24x38 mm of length 3000 mm, cross - T of size 24x32 mm of length 1200 mm and secondary intermediate cross-T of size 24x32 mm of length 600 mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanized mild steel items (galvanizing @ 80 grams per sqm) i.e. 12x50 mm long dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 76x25x25x1.6 mm fixed with grid and Z cleat of size 25x37x25x1.6 mm thick with precut hole on both 25 mm flange to pierce into 12x50 mm or even bigger size dash fastener if require, fixed with Galvanized iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.				
	With 15 mm thick tegular/butt edged without perforation plain/designer light weight calcium silicate Anti-Microbial Bio-Safe coated false ceiling tiles Confirming to JIS-Z2801 and ASTM G-21(The material test certificate from Govt lab / Accredited Lab will be required to be produced as directed by Engineer in Charge)	sqm	2247.00	2615.57	58,77,174.79
2	Dismantling aluminum / Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge.	sqm	2247.00	64.05	1,43,921.95
3	Credit for old GI section items of existing mineral fibre false ceiling tiles ceiling as per direction of Engineer-in charge.	KG	1370.67	31.00	42,490.77
Total					**59,78,606.00**

Digitally signed by Ashish Patyal
Date: 2026.10.15 12:22:16 IST
Location: eProcure-EPROC