



भारत सरकार

Government of India

केन्द्रीय लोक निर्माण विभाग

**Central Public Works Department
Notice Inviting Tender**

FOR

Name of Work: Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

Estimated Cost: - Rs. 2,51,85,517/- (Electrical Work: Rs. 1,75,97,697/- + Civil Work: Rs. 75,87,820/-)



**Executive Engineer(E),
Ghaziabad Electrical Division
CPWD, AFS Hindon, Ghaziabad**

INDEX

Name of work: - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

S. No.	DESCRIPTION	Page No.
1	COVER PAGE	1
2	INDEX	2
	PART-A	3
3	NOTICE INVITING TENDER	4
4	PRESS NOTICE (e-TENDERING)	5
5	INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING FORMING PART OF BID DOCUMENT	6-9
6	CPWD-6 FOR e-TENDERING	10-13
7	CPWD-7	14-16
	PART-B (ELECTRICAL WORK)	17
8	PROFORMA OF SCHEDULE A to F FOR ELECTRICAL WORK	18-23
9	LIST OF MANDATORY MACHINERY, TOOLS AND PLANTS AND TESTING EQUIPMENT	24
10	ELIGIBILITY CONDITION FOR ASSOCIATE AGENCY FOR EXECUTION OF EI AND DB'S, MCCB SYSTEM	25-27
11	MOU	28
12	CONSENT LETTER PROFORMA FOR ELECTRICAL AGENCY	29
13	PROFORMA OF CERTIFICATE FOR ASSOCIATING ELECTRICAL AGENCY	30
14	AFFIDAVIT	31
15	WILLINGNESS CERTIFICATE	32
16	(TO BE SUBMITTED BY THE BIDDER ALONGWITH E-BID) ANNEXURE'B'	33
17	(TO BE SUBMITTED BY THE BIDDER ALONGWITH PERFORMANCE GUARANTEE) ANNEXURE'C',	34-36
18	GUARNTTEE BOND	37
19	TERMS AND CONDITION	38-40
20	ADDITIONAL TERMS AND CONDITIONS	41-44
21	APPROVED MAKES OF MATERIALS	45-46
22	SCHEDULE OF QUANTITIES (Electrical Part)	47-59
	PART-C (CIVIL WORK)	60
23	PROFORMA OF SCHEDULE A to F FOR CIVIL WORK	61-66
24	GENERAL CONDITIONS	67-80
25	ADDITIONAL CONDITIONS	81-86
26	SPECIAL CONDITIONS FOR PROCUREMENT OF CEMENT	87-88
27	SPECIAL CONDITION FOR PROCUREMENT OF STEEL REINFORCEMENT BARS	89-90
28	SPECIAL CONDITION FOR RCC WORK	91-99
29	PARTICULAR SPECIFICATIONS	100-111
30	MINIMUM QUALITY ASSURANCE PLAN	112-113
31	LIST OF EQUIPMENT FOR FIELD TESTING LABORATORY	114-115
32	PROFORMA FOR MANDATORY TESTS TO BE ATTACHED WITH RUNNING BILLS	116
33	LIST OF PREFERRED MAKES FOR CIVIL WORK	117-121
34	SCHEDULE OF QUANTITIES (Civil Part)	122-138

Certified that this NIT contains Page 1 to 138

Executive Engineer (E)
GED, CPWD
Ghaziabad

PART -A

NOTICE INVITING TENDER

N.I.T. No.	12/CE(GZB)/NIT/2026-27 (2nd Recall)
Name of work	Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).
Estimated Cost	Rs. 2,51,85,517/- (Electrical Work: Rs. 1,75,97,697/- + Civil Work: Rs. 75,87,820/-)
Earnest Money	Rs. 5,03,710/-
Performance Guarantee	(a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher). (b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.
Security Deposit	2.5% of tendered value
Time Allowed	12 Months

This NIT for the above work amounting to Rs. 2,51,85,517/- (Rs. Two Crore Fifty-One Lakh Eighty-Five Thousand Five Hundred and Seventeen only) is hereby put up for approval.

Assistant Engineer(P)
Ghaziabad Zone, CPWD
Ghaziabad

Assistant Engineer(E)P
Ghaziabad Zone, CPWD
Ghaziabad

Executive Engineer (P)
Ghaziabad Zone, CPWD
Ghaziabad

Approved

**Chief Engineer
Ghaziabad, CPWD
Ghaziabad**

Press Notice (e-Tendering)

कार्यपालक अभियन्ता(वै.), गाजियाबाद वैद्युत मंडल, केलोनिवि, एयरफोर्स स्टेशन हिण्डन, गाजियाबाद-201004 के द्वारा भारत के राष्ट्रपति की ओर से निम्नलिखित कार्य के लिए ऑन लाईन दर प्रतिशत निविदा from approved and eligible CPWD Building & Roads Category Contractor in single bid system for the following work(s) से आमन्त्रित की जाती हैं।

नि.आ.सू.स0. **12/CE(GZB)/NIT/2026-27 (2nd Recall)**

कार्य का नाम: Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

अनुमानित लागत: ₹0. Rs. 2,51,85,517/- (Electrical Work: Rs. 1,75,97,697/- + Civil Work: Rs. 75,87,820/-)

धरोहर राशि: : Rs. 5,03,710/-

समापन की अवधि: 12 माह

निविदा भरने की अन्तिम तिथि एवं समय: 18/09/2026 को 3 :00 बजे तक।

निविदा खोलने की तिथि एवं समय: 18/09/2026 को 3:30 बजे को।

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

54(52)/क0अभि0(वै0)/गा0वै0म0/नोएडा/2026-27/

दिनांक:

प्रतिलिपि:

1. मुख्य अभियन्ता, (गाजियाबाद), के0लो0नि0वि0, हापुडचुंगी, गाजियाबाद।
2. मंडल कार्यालय के अधीनस्थ सभी सहायक अभियन्ताओं (वै0) को सूचनार्थ प्रेषित।
3. सूचनापट, के0लो0नि0वि0, हिण्डन, गाजियाबाद।
4. निविदाआमंत्रण सूचना।
5. <https://etender.cpwd.gov.in>
6. रोकडिया।

कार्यपालक अभियन्ता (वै0)
गा.वै.म., के.लो.नि.वि,
हिण्डन, गाजियाबाद

**INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING FORMING
PART OF BID DOCUMENT
(Applicable for inviting open tenders)**

The **Executive Engineer(E), Ghaziabad Electrical Division, CPWD, AFS Hindan, Ghaziabad-201004**, on behalf of President of India invites **online Percentage Rate tender** from approved and eligible CPWD Building & Roads Category Contractor in single bid system for the following work(s).

S. No.	NIT No.	Name of work & Location	Estimated Cost put to bid	Earnest Money	Stipulated Period of Completion (In months)	Last date of online submission of bid, copy of receipt of deposition of original EMD , and other documents as specified in the bid document	Date & time of opening of bid
1	2	3	4	5	6	7	8
1	12/CE(GZB)/NIT/2026-27(2nd Recall)	Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector-62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).	Rs. 2,51,85,517/- (Electrical Work: Rs. 1,75,97,697/- + Civil Work: Rs. 75,87,820/-)	Rs. 5,03,710/-	12 (Twelve) Months	Up to 3:00 PM On 18/09/2026	At 3:30 PM On 18/09/2026

1. The intending bidder must read the terms and conditions of **CPWD-6** carefully. He should only submit his tender if he considers himself eligible and he is in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of tender document.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from **website <https://etender.cpwd.gov.in> or www.cpwd.gov.in** free of cost.

4. But the bid can only be submitted **after deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission** and uploading the mandatory scanned documents such as Insurance Surety Bonds, Account Payee Demand Draft or Banker's Cheque or Fixed Deposit Receipts or / and Bank Guarantee (for balance amount as prescribed) from any Commercial Bank towards EMD in favour of the **Executive Engineer (E), Hindan Central Electrical Division, CPWD, AFS Hindan, Ghaziabad**, receipt for deposition of original EMD to division office of any Executive Engineer, (including NIT issuing EE/AE)CPWD and other documents as specified.
5. Those contractors who are not registered or have not updated their profile on the website mentioned above, are required to get registered /update their profile beforehand. The necessary training materials including the videos with step-to-step process are available on download section of <https://etender.cpwd.gov.in>.
6. The intending bidder must have valid class-III digital signature **certificate with the encryption key (combo type) to perform any operations / transactions on the e-tendering portal/ website and the bidder should download and install the eMSigner on their system as per instructions available on download section of <https://etender.cpwd.gov.in>.**
7. On opening date, the contractor can login and see the tender opening process. After opening of tenders, he will receive the competitor tender sheets.
8. Contractor can upload documents in the form of JPG format and PDF format.
9. Contractor must ensure to quote rate in the prescribed column (s) meant for quoting rate in figures appears in **Yellow** colour and the moment rate is entered; it turns **sky blue**.

In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0".

Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).

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

10. **List of documents to be scanned and uploaded within the period of bid submission.**
 - i. Account Payee Demand Draft of a Commercial Bank or Banker's Cheque of a Commercial Bank or Fixed Deposit Receipts (FDR) of a Commercial Bank or Insurance Surety Bonds or / and Bank Guarantee (for balance amount as prescribed) from a Commercial Bank against EMD.
 - ii. Enlistment order of contractor.
 - iii. Copy of bidder Pan Card.

- iv. Copy of receipt for deposition of Original EMD to division office of any Executive Engineer, CPWD i/c Division inviting tender.
- v. Firm should have valid electrical contractor's License/ undertaking that the electrical work shall be got executed by the contractor having valid electrical contractor's License in case contractor himself is not having valid electrical contractor's License.
- vi. GST Registration Certificate, if already obtained by the bidder.

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

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

- vii. Copy of certificate of ERP Training through LMS, CPWD.
- viii. Undertaking as per Annexure-'B'.
- ix. Affidavit as per Page 31.

Executive Engineer(E)
Ghaziabad Electrical Division
CPWD, AFS, Hindan Ghaziabad

Form 'A'**RECEIPT OF DEPOSITION OF ORIGINAL EMD**

(Receipt No.#..... / Date#.....)

Name of Work: **Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).**

1. NIT No.: **12/CE(GZB)/NIT/2026-27 (2nd Recall)**
2. Estimated Cost: **Rs. Rs. 2,51,85,517/- (Electrical Work: Rs. 1,75,97,697/- + Civil Work: Rs. 75,87,820/-)**
3. Amount of Earnest Money Deposit: **Rs. 5,03,710 /-**
4. Last date & Time of submission of Bid: **Up to 3:00 PM on 18/09/2026**

1. Name of Contractor:#.....
2. Form of EMD#.....
3. Amount of Earnest Money Deposit#.....
4. Date of submission of EMD#.....

.....

Signature, Name and Designation of EMD
receiving officer (EE/AE(P)/AAO) along with Officer stamp

Note:- Receipt of EMD issued by Sub-Division office will not be accepted.

CPWD-6 FOR e-Tendering

1. The **percentage rate bids** are invited on behalf of President of India from approved and eligible CPWD Building & Roads Category Contractor in single bid system for the following work(s) : - **Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).**

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

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 bid.

The work is estimated to cost **Rs. 2,51,85,517/- (Rs. Two Crore Fifty-One Lakh Eighty-Five Thousand Five Hundred and Seventeen only)**. This estimate, however, is given merely as a rough guide.

2. Agreement shall be drawn with the successful bidder on prescribed Form No. **CPWD 7** which is available as a Govt. of India Publication and also available on web site 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 **12 Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
4.
 - (i) The site for the work is available.
 - (ii) The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of the work.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website <https://etender.cpwd.gov.in> or www.cpwd.gov.in **free of cost.**
6. After submission of the bid the contractor can resubmit revised bid any number of times but before last time and date of submission of tender as notified.
7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times. (He need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
8. Earnest Money of **Rs. 5,03,710/-** in the form of **Insurance Surety Bonds, Account Payee Demand Draft or Fixed Deposit Receipts or Banker's Cheque or Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks** (drawn in favour of **Executive Engineer (E), Hindan Central Electrical Division, CPWD, AFS Hindan, Ghaziabad**) shall be scanned and uploaded to the e-Tendering website within the period of bid submission.
The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of

earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

This receipt shall also be uploaded to the e- tendering website by the intending bidder up to the specified bid submission date and time.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lacs, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee **of any Commercial bank having validity for 6 months or more from the last date of receipt of bids** which is to be scanned and uploaded by the intending bidders.

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

Copy of Enlistment order and certificate of work experience and other documents as specified in the 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 along with the physical EMD of the scanned copy of EMD uploaded within a week physically in the office of tender opening authority.

Online bid documents submitted by intending bidders shall be opened only of those bidders, who's original EMD deposited with any division of CPWD and other documents scanned and uploaded are found in order.

- 8 (a) The Contractors registered prior to 01.04.2015 on e-tendering portal of CPWD shall have to deposit tender processing fee at existing rates, or they have option to switch over to the new Registration system without tender processing fee anytime.

The bid submitted shall be opened at 03:30 P.M. on 18/09/2026

9. The bid submitted shall become invalid and e-tender processing fee shall not be refunded if:
- (i) The bidder is found ineligible.
 - (ii) The bidder does not upload all the documents as stipulated in the bid document.
 - (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted **physically by the lowest bidder** in the office of bid opening authority.
 - (iv) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
10. The contractor whose bid is accepted will be required to furnish performance guarantee of 5% of the estimated cost put to tender (ECPT) or contract amount whichever is higher. The Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount of ECPT and quoted amount. Direction in Performance Guarantee as per **OM no. DG/Manual -2024/20 dated 27-02-2026** issued from file no. CSQ/CM/16(1)/2026 e file

9212995(DFA/9365789). This guarantee shall be in the form of **Insurance Surety Bonds, Account Payee Demand Draft or Fixed Deposit Receipts or Bank Guarantee from any of the Commercial Banks** in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee.

The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. If applicable and also ensure the compliance of aforesaid provisions by the sub-contractor, if any engaged by the contractor for the said work within the period specified in Schedule F.

Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

11. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any mis understanding 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 other wise specifically provided for in the contract documents. Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local condition sand other factors having a bearing on the execution of the work.
12. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
13. 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 to rejection.
14. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the tender and the bidders shall be bound to perform the same at the rate quoted.
15. The contractor shall not be permitted to bid for works in the CPWD Circle (Division incase of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive).

He shall also intimate the names of persons who are working with him in any capacity are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Urban Development any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

16. No Engineer ungazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.
17. **The bid for the works shall remain open for acceptance for a period of 30 (Thirty) days from the date of opening of tenders.**
 - (i) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department within 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty **to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.**
 - (ii) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department after expiry of 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty **to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.**
 - (iii) In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work.
18. This notice inviting Bid shall form a part of the contract document. The successful bidders/contractor, on acceptance of his bid by the Accepting Authority shall within 7 days from the stipulated date of start of the work, sign the contract consisting of: -
 - (a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
 - (b) **Standard C.P.W.D. Form 7.**

Executive Engineer(E)
Ghaziabad Electrical Division
CPWD, AFS, Hindan Ghaziabad

GOVERNMENT OF INDIA

CENTRAL PUBLIC WORKS DEPARTMENT

STATE	U.P.	CIRCLE
BRANCH	E&M	DIVISION Ghaziabad Electrical Division,
ZONE	CE (GZB)	SUB-DIVISION

Percentage Rate Tenders & Contract for Works

Tender for the work of: - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

- (i) To be uploaded online by **3:00 PM on 18/09/2026** to Executive Engineer(E), Ghaziabad Electrical Division, CPWD, AFS Hindan, Ghaziabad
- (ii) (To be opened online in presence of tenderer who may be present at **3.30 PM on 18/09/2026** in the office of Executive Engineer(E), Ghaziabad Electrical Division, CPWD, AFS Hindan, Ghaziabad

TENDER

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

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all 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 of accordance with, such conditions so far as applicable.

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

A sum of **Rs. 5,03,710/-** is hereby forwarded in cash/receipt treasury challan/deposit at call receipt of a scheduled bank/fixed deposit receipt of scheduled bank/demand draft of a scheduled bank/bank guarantee issued by a scheduled bank as earnest money.

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

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

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

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

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety and integrity of the State.

Dated :.....

Signature of the Contractor

Witness:

Postal Address:

Address:

Telephone No.:.....

Occupation:

FAX :.....

E-MAIL :.....

ACCEPTANCE

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

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

- (a) _____*
- (b) _____*
- (c) _____*

For & on behalf of the President of India

Signature.....*

Dated*

Designation.....*

PART – B

(ELECTRICAL WORK)

PROFORMA OF SCHEDULES

SCHEDULE 'A'

Schedule of quantities- Enclosed in Page No: - 47 to 59

SCHEDULE 'D'

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

NIL

SCHEDULE 'E'

Reference to General Conditions of contract: -

General Conditions of Contract 2023 for Maintenance works for CPWD works as amended with amendments issued up to previous day of the last date of submission of the Tenders.

Name of work:

Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).)

Estimated cost of work:-

Rs. 2,51,85,517/- (Electrical Work: Rs. 1,75,97,697/- + Civil Work: Rs. 75,87,820/-)

(i) Earnest money:-

Rs. 5,03,710/-

(ii) Performance Guarantee:-

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

(iii) Security deposit :-

2.5% of tendered value

SCHEDULE 'F'

General Rules & Directions: -

Officer inviting tender:

Executive Engineer (E), Ghaziabad Electrical Division, CPWD, AFS Hindan, Ghaziabad

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3

See Clause – 12 below

Definitions:

2 (vi)	Engineer-in-Charge	Executive Engineer (E), Ghaziabad Electrical Division, CPWD, AFS Hindan, Ghaziabad
2 (viii)	Accepting Authority	Chief Engineer (GZB), CPWD, CGO-I, Hapur Road, Ghaziabad.
2 (x)	Percentage on cost of materials and labour to cover all overheads and profits.	15%
2 (x)(b)	Standard schedule of Rates	Market Rate/ DSR 2025 Internal & External amended up to date.
2 (xi)	Department	C.P.W.D.
9 (ii)	Standard CPWD contract form	General Conditions of Contract 2023 for Maintenance works for CPWD works as amended with amendments issued up to previous day of the last date of submission of the Tenders.

Clause 1

(i)	Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance.	7 Days
(ii)	Maximum allowable extension with late fee @ 0.1% per day of performance guarantee amount beyond the period provided in (i) above	3 Days

Clause 2

Authority for fixing compensation under clause 2	Chief Engineer (GZB), CPWD, CGO-I, Hapur Road, Ghaziabad
--	---

Clause 2A

Whether Clause 2A shall be applicable	No
---------------------------------------	-----------

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start	10 Days
---	----------------

MILE STONE (S), AS PER TABLE GIVEN BELOW
TABLE OF MILE STONE

Sl. No .	Financial Progress	Time allowed (From date of start)	Amount to be with-held in case of non-achievement of milestone.
1.	1/8 th (of whole work)	1/4 th (of whole time)	In the event of not achieving the necessary progress as assessed from the running payments, 1.25% of the tendered value of work will be withheld for failure of each milestone.
2.	3/8 th (of whole work)	1/2 th (of whole time)	
3.	3/4 th (of whole work)	3/4 th (of whole time)	
4.	Full	Full	
<u>Note:</u> The withhold milestone will only be released when subsequent milestone is achieved within the specified time.			

Time allowed for execution of work

12 (Twelve) Months

Authority to decide:	
Authority to convey the decision of shifting of mile stone and extension of time	Executive Engineer (E), Ghaziabad Electrical Division, CPWD, AFS, Hindan, Ghaziabad
Authority to decide Rescheduling of mile stones and extension of time	Chief Engineer (GZB), CPWD, CGO-I, Hapur Road, Ghaziabad.
Shifting of date of start in case of delay in handing over of site.	Chief Engineer (GZB), CPWD, CGO-I, Hapur Road, Ghaziabad.

PROFORMA OF SCHEDULES Clause 5 Schedule of handing over of site**Clause 5:Applicable clause-5****Clause 6:****Mode of measurement****EMB****Clause 7:**

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

Rs. 15 Lakh**Clause 7A**

Whether Clause 7A shall be applicable

Yes

Clause 8

Competent authority to inspect and issue Completion Certificate

Executive Engineer (E), Ghaziabad Electrical Division, CPWD, AFS, Hindan, Ghaziabad

Clause 10A

List of testing equipment to be provided by the contractor at site lab.

As per Annexure 'A'

Equipment required for field test as per specification for the item under execution as per agreement

Clause 10 – B(ii)

Whether clause 10-B(ii) shall be applicable

No

Clause 10C -

Applicable

Component of labour as expressed of value of work -

70%

Clause 10 CA

Not Applicable

Authority to issue base price of material:

Materials covered under this clause	Nearest material (other than cement*, reinforcement bars, the structural steel and POL) for which All India Wholesale price index to be followed.	Base price and its corresponding period of all the materials covered under clause 10CA*
NIL		

* includes cement components use in RMC brought at site from outside approved RMC plants if any.

Clause 10CC

Clause 10CC to be applicable in contracts with Stipulated period of completion exceeding the period Shown in next column.

Not Applicable

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

Component of civil (Except materials covered under clause 10 CA)/ Electrical construction materials Xm expressed as percent of total value of work.

Component of labour expressed as percent of total value of work.

Y

Component of POL expressed as percent of total value of work.

Z

Not Applicable

Clause 11

Specifications to be followed for execution of work

CPWD General Specifications for Electrical Works Part-I Internal 2023, Part-II (External) 2023, Part VII DG sets-2013 and Part-III-Lift & Escalators-2003 (Amendment No. 1) with up to date & I.E Rules as applicable, as per Terms & Conditions attached.

Clause 12

The completion cost shall, in no case, exceed 1.5 times the contract amount. Work executed beyond above limit will neither be recorded nor be paid. The contractor will not have any claim(s) whatsoever on this account.

Clause 16

Competent Authority for deciding reduced rates.

Chief Engineer (GZB), CPWD, CGO-I, Hapur Road, Ghaziabad

Clause 18

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

As per Annexure 'A'

Clause 19 C..... authority to decide penalty for each default

Engineer- in-charge.

Clause 19 D..... authority to decide penalty for each default

Engineer- in-charge.

Clause 19 Gauthority to decide penalty for each default

Engineer- in-charge.

Clause 19 Kauthority to decide penalty for each default

Engineer- in-charge.

Clause 25

(i)	Conciliator:	ADG(RL), CPWD or his successor thereof.
(ii)	Arbitrator appointing authority:	Chief Engineer (GZB), CPWD, CGO-I, Hapur Road, Ghaziabad
(iii)	Place of Arbitration	Ghaziabad

Clause 32**“Requirement of Technical Representative (s) and Recovery Rates”**

Sl. No.	Requirement of Technical		Minimum Experience (Years)	Designation Technical Staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36 (i)	
	Qualification	Number of Major + Minor component			Figures (in Rs.)	Words
1	Graduate Engineer Or Diploma Engineer	1	2 or 5 respectively	Project Planning /Quality/ Billing Engineer	15,000/- Per Month per person	(Rupees Fifteen Thousand only) Per Month per person

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

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

Clause 38

- (i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of **Delhi Schedule of Rates 2025** printed by CPWD with up-to-date correction slips till last date of submission of tender.
- (ii) Variations permissible on theoretical quantities:
- a) Cement
- (i) For works with estimated cost put 3% plus/minus to tender not more than Rs. 25 lakhs
- (ii) For works with estimated cost put to 2% plus/minus tender more than Rs 25 lakh
- b) Bitumen for all works. 2.5% on plus side only & nil on minus side
- c) Steel Reinforcement and structural steel sections for each diameter, section and category. 2% plus/minus
- d) All other materials. Nil

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl. No	Description of Item	Rates in figures and words at which recovery shall be made from the Contractor.	
		Excess beyond permissible variation	Less use beyond the permissible variation
Not Applicable			

ANNEXURE 'A'Clause- 10 –A & 18

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

1.	Steel/Aluminium Ladder 1.5 m to 8 m.	2 Nos.
2.	Wall grooving machine for Chase cutting	2 Nos.
3.	Electrical wire drawing equipment.	2 Set.
4.	Torque wrench for nut/bolt/screws.	2 Nos.
5.	Conduit die set.	2 Set.
6.	Pipe vice.	1 No.
7.	Bench vice.	1 No.
8.	L.T.Meggar 500/1000 volts.	1 No.
9.	Tong Tester.	1 No.
10.	Multimeter.	1 No.
11.	Hydraulically operated & hand operated crimping machine.	1 No.
12.	Earth tester.	1 No.
13.	Portable Ordinary drilling machine.	2 Nos.
14.	Portable Hammer drilling machine.	2 Nos.
15.	Overhead conduit puller.	1 No.

Name of Work: - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

Eligibility condition for Associate agency for execution of Providing EI and DB's, MCCB System

The main contractor/agency has to submit detail of such agency to be associated to the Engineer-in-charge (**SITC of EI and DB's, MCCB System**) within fifteen days from date of start of work. The associate agency shall be approved by Engineer-in-charge (**SITC of EI and DB's, MCCB System**). In case the main contractor intends to change associated agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge (**SITC of EI and DB's, MCCB System**). The associated specialized agency shall also have to satisfy the laid down eligibility criteria mentioned below. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the main contractor to change the agency executing such items of work and this shall be binding on the contractor.

Eligibility condition for Associate agency for execution of EI and DB's, MCCB System

The main agency has to associate agency of **EI and DB's, MCCB System**

The associate agency should have successfully completed similar works during last 7 years ending last day of month previous to the one in which tenders are invited.

- (i) Three similar works each of value not less than 40% of the estimated cost of SH:I
OR
- (ii) Two similar works each of value not less than 60% of the estimated cost of SH:I
OR
- (iii) One similar works each of value not less than 80% of the estimated cost of SH:I

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 date of submission of tender.

Similar work shall mean works of “SITC of EI and DB's, MCCB System”.

However, the composite category contractor shall also be carrying out this work himself without associating any agency provided: -

- a) He fulfils the prescribed eligibility criteria respectively for these work(s).
OR
- b) He directly procures the equipment of approved make from manufacturer and get it installed from authorized agency/ service provider of the manufacturer or specialized agency as per criteria mentioned in the NIT.

Name of Work: - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

Eligibility condition for Associate agency for execution of Operation of Lift.

The main contractor/agency has to submit detail of such agency to be associated to the Engineer-in-charge (**Operation of Lift**) with in fifteen days from date of start of work. The associate agency shall be approved by Engineer-in-charge (**Operation of Lift**). In case the main contractor intends to change associated agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge (**Operation of Lift**). The associated specialized agency shall also have to satisfy the laid down eligibility criteria mentioned below. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the main contractor to change the agency executing such items of work and this shall be binding on the contractor.

Eligibility condition for Associate agency for execution of Operation of Lift

The main agency has to associate agency of **Operation of Lift**

The associate agency should have successfully completed similar works during last 7 years ending last day of month previous to the one in which tenders are invited.

- (i) Three similar works each of value not less than 40% of the estimated cost of SH:II
OR
- (ii) Two similar works each of value not less than 60% of the estimated cost of SH:II
OR
- (iii) One similar works each of value not less than 80% of the estimated cost of SH:II

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 date of submission of tender.

Similar work shall mean works of “Maintenance & Operation of Lift”.

However, the composite category contractor shall also be carrying out this work himself without associating any agency provided: -

- a) He fulfils the prescribed eligibility criteria respectively for these work(s).
OR
 - b) He directly procures the equipment of approved make from manufacturer and get it installed from authorized agency/ service provider of the manufacturer or specialized agency as per criteria mentioned in the NIT.
-

Name of Work: - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

Eligibility condition for Associate agency for execution of AMC of DG Set.

The main contractor/agency has to submit detail of such agency to be associated to the Engineer-in-charge (AMC of DG Set) with in fifteen days from date of start of work. The associate agency shall be approved by Engineer-in-charge (AMC of DG Set). In case the main contractor intends to change associated agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge (AMC of DG Set). The associated specialized agency shall also have to satisfy the laid down eligibility criteria mentioned below. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the main contractor to change the agency executing such items of work and this shall be binding on the contractor.

Eligibility condition for Associate agency for execution of AMC of DG Set

The main agency has to associate agency of AMC of DG Set

The associate agency should have successfully completed similar works during last 7 years ending last day of month previous to the one in which tenders are invited.

- (i) Three similar works each of value not less than 40% of the estimated cost of SH:III
OR
- (ii) Two similar works each of value not less than 60% of the estimated cost of SH:III
OR
- (iii) One similar works each of value not less than 80% of the estimated cost of SH:III

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 date of submission of tender.

Similar work shall mean works of “AMC of DG Set”.

However, the composite category contractor shall also be carrying out this work himself without associating any agency provided: -

- a) He fulfils the prescribed eligibility criteria respectively for these work(s).
OR
- b) He directly procures the equipment of approved make from manufacturer and get it installed from authorized agency/ service provider of the manufacturer or specialized agency as per criteria mentioned in the NIT.

MEMORANDUM OF UNDERSTANDING [M.O.U] BETWEEN
(For EI and DB's, MCCB System, Lift and AMC of DG Set)

- 1] M/S [Name of the firm with full address]
 Enlistment Status
 Valid Up to:
 [Henceforth called the main contractor]

And

- 2] M/S [Name of the firm with full address]
 Enlistment Status
 Valid Up to:
 [Henceforth, called Associated Contractor]

Name of Work: - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

[Electrical Component only] as per schedule, specifications, terms and conditions of the tender.

We state that M.O.U. between us will be treated as an agreement and has legality as per Indian Contract Act (amended up to date) and the department (CPWD) can enforce all the terms and conditions of the agreement for execution of the above work. Both of us shall be responsible for the execution of work as per the agreement to the extent of this MOU allows. Both the parties shall be paid consequent to the execution as per agreement to the extent this MOU permits.

We have agreed as under:

- 1- The associated contractor shall be liable for disciplinary action if he failed to discharge the action(s) and other legal action as per agreement besides forfeiture of the security deposit.
- 2- All the material, machinery and equipments, tools and tackles required for execution of the electrical works as per agreement shall be the responsibility of the associated contractor.
- 3- The site staff required for the electrical work shall be arranged by the associated contractor as per terms and conditions of the agreement.

SIGNATURE OF MAIN CONTRACTOR

Date
 Place

SIGNATURE OF ASSOCIATED
 CONTRACTOR

Date
 Place

COUNTERSIGNED
 EXECUTIVE ENGINEER (E)

CONSENT LETTER PROFORMA FOR ELECTRICAL AGENCY

I/We..... hereby give my /our consent to work, as associated electrical contractor for the composite work.

Till the completion of work, I/We will be responsible for necessary action to hand over the installation and for the rectification of defects and repair during the maintenance period. I/We will execute the work, as per CPWD general specifications, as amended up to date & additional conditions of the contract.

I/We will also engage suitable / Qualified Engineer for the work, as per condition of the contract. I/We will further certify the particulars shown in certificate for associating electrical agency and pertaining to me/us are correct.

Date:

Signature of Electrical Agency

Proforma of Certificate for Associating Electrical Agency

(To be submitted by the lowest tenderer, after approval of tender,
by the Competent Authority)

1. This certificate that we have not deviated from the technical specification and commercial provisions provided in the tender.
2. The price bid is unconditional.
3. This is certified that we proposed to engage, one of the following Electrical Contractor of appropriate class, as detailed below:

		I	II	III
(i)	Name of Contractor			
(ii)	Address			
(iii)	Class of Registration			
(iv)	Maximum ceiling limit to execute the Electrical Work			
(v)	Validity of Registration			
(vi)	Registration Details with CPWD along with copy of registration			
a.	Registered (Yes/No)			
b.	Monetary limit of work			
c.	Validity of registration			
d.	Debarred from tendering (Yes/No)			

4. Within 30 days of the award of work, the main contractor will submit MOU signed with electrical contractor registered in appropriate class along with consent letter of electrical contractor.

(*) To be filled by contractor.

(Signature of Contractor)

Affidavit

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

Signature of bidder(s) with stamp

WILLINGNESS CERTIFICATE

Name of Work: - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

I hereby give my willingness to work as associated contractor for the above-mentioned work.

I will execute the work as per specifications and conditions for the agreement and as per direction of the Engineer-in-charge. Also, I will employee full time technically qualified supervisor for the works. I will attend inspection of officers of the department as and when required.

Date :

Signature of Contractor

ANNEXURE-'B'**(TO BE SUBMITTED BY THE BIDDER ALONGWITH E-BID)**

Name of Work:- Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

UNDERTAKING FOR THE WORK

It is certified that if we become the lowest bidder, we shall submit the undertaking as per Annexure-C at the time of submission of Performance Guarantee. If we fail to submit the above documents or the same are not found correct, our EMD shall be forfeited.

Signature of Bidder

Name_____

Designation:_____

ANNEXURE-C**(TO BE SUBMITTED BY THE BIDDER ALONGWITH PERFORMANCE GUARANTEE)**

Name of Work:- Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

UNDERTAKING FOR THE WORK

We will unconditionally support, technically throughout the execution of contract for Maintenance/Comprehensive maintenance contract and also shall provide all the spares required for healthy functioning of DG Set (Cummins make) for this work to M/s.....

Signature of OEM/OEA of DG set
(Cummins make)

Name_____

Designation:_____

On non-judicial stamp paper of minimum Rs. 100

(Guarantee offered by Bank to CPWD in connection with the execution of contracts) Form of Bank Guarantee for Earnest Money Deposit /performance Guarantee/Security Deposit/Mobilization Advance

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

OR**

Whereas the Executive Engineer..... (name of division) CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number with (name and address of the contractor)..... (hereinafter called "the Contractor") for execution of work..... name of work) The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. (Rupees only) valid upto (date) as **Performance Guarantee/security Deposit/Mobilization Advance** from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We, (indicate the name of the bank) (herein after referred to as "the bank"), hereby undertake to pay to Bank the Government an amount not exceeding Rs..... (Rupees only) on demand by the Government within 10 days of the demand.
3. We, (indicate the name of the Bank)..... do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall, be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (Rupees Only)
4. We, (indicate the name of the Bank), further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment. '

5. We, (indicate the name of the Bank) further agree that the Government shall have the fullest liberty without our consent and without affected in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. We, (indicate the name of the Bank) further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.
7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
8. We (indicate the name of the Bank), undertake not to revoke this Guarantee except with the consent of the Government in writing.
9. This Bank Guarantee shall be valid upto unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees... Only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date.....

Witnesses:

1. Signature
(Name 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.

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

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

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

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

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

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

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

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

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

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

Signed, sealed and delivered by OBLIGOR in the presence of

- 1.
- 2.

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

GENERAL TERMS AND CONDITION

1. The work shall be carried out strictly in accordance with CPWD General Specifications for Internal electrical work – 2023 (Internal) & 2023 (External) and CPWD General Specifications for Electrical Works Part VII D.G. Sets - 2013& CPWD General Specifications for Electrical Works Part III-Lift & Escalator-2003, (Amendment No. 1) as amended upto date and in accordance with the Indian electricity Rules 1956 and Indian Electricity act 1910 as amended upto date and as per instruction of the Engineer-in-charge.
2. The contractor shall intimate Engineer-in-charge or his authorized representatives for any breakdown and shall arrange its rectification immediately to put the plant operation again during the contract period.
3. The petty item such as PVC tape, control, cleaning agents old dhoti etc shall be arranged by agency and shall be kept ready in advance.
4. The contractor shall arrange his own T&P for maintenance work within the quoted rates.
5. The contractor shall maintain the proper discipline among his operational staff.
6. All equipments shall be handed over to the department in good working condition after completion of work.
7. The staff deputed by the contractor shall have good character. All staff on duty shall always wear uniforms with badges and keep cordial relation with client department and staff of CPWD.
8. All machineries tools and plant shall be kept ready and same shall be inspected by the Engineer-in-charge or his authorized representative at site.
9. If the contractor fails to provide services of the maintenance for a certain period due to absence of his maintenance staff or other reasons on part of contractor / his staff, suitable recovery shall be made from his bill.
10. No claim for the absorption of staff in the department shall be entertained. The contractor has to indemnify the department in such eventuality.
11. After award of work the contractor will submit the details of operating staff for the work, their names, father's name, local address, qualification and experience etc. to the Engineer-in-charge or his authorized representatives. In case of any change of operating staff is required by the contractor, the same shall be intimated to and got approved from the Engineer-in-Charge or his authorized representatives.
12. The Engineer-in-Charge or his authorized representatives reserves the right to ask the contractor to remove any of the maintenance / operating staff without assigning any reason what so ever, the decision of Engineer-in-Charge will be final and binding to the contractor.
13. During the running contract, the responsibilities of physical custody of E&M Installation with associated installation will rest on the contractor.
14. In case of any damage to E&M installation on account of negligence of contractor's staff. The same will be made good at his risk and cost. Failure to which the department shall make good & recovery for cost of making good will be made from the contractor's bill. The decision of the Engineer-in-Charge or his authorized representative shall be final and binding.
15. After the expiry of the contract, all installation & inventories shall be handed over back to the department in similar condition, as was handed over to the contractor at the time of start of the contract except, normal wear and tear and the part of which the contractor is not responsible, failing which recovery will be made from contractor's final bill. The decision of the Engineer-in-Charge or his authorized representative shall be final and binding.
16. The contract will commence from the date as indicated in the letter of award. Department reserves the right to terminate the contract before the expiry of the period without assigning any reason.
17. Operating staff on duly shall be in a proper uniform with badge. The staff shall observe perfect discipline and shall refrain from unwanted activities otherwise they will be treated as absent from duty & recovery will made.
18. Department shall in no way be involved in any dispute of whatever kind, between the contractor and the staff engaged by him. The contractor shall be fully responsible to pay all the compensation and

cover all the risks for the workers employed by him under workmen compensation act in the event of accident / death etc. The department will not be responsible in any way.

19. The contractor shall pay prescribed monthly wages to his staff regularly up to 7th date of each month. Failing which recovery for late payment shall be @500/- per day for per person from the contractor bill. The contractor shall maintain wages register indicating name of the staff & their receipt acknowledgement & verified by the representatives of the Engineer-in-Charge & copy of the same shall be provided along with the bills for the respective months. No payment shall be made without the copy of wages register for the respective months. Wages due to every worker shall be paid to him directly by the contractor through Bank or ECS or online transfer to his bank account.
20. The contractor will provide EPF and ESI Registration no. of his firm & also EPF, ESI and labourers Registration of their staff.
21. The contractor has to abide by the labour acts & laws as applicable & amended upto date.
22. The contractor may note carefully that the recovery for the absence of maintenance staff from their duty shall be made from the contractor's running bill of the month of the absence of the staff at following rates.
 - a) Wiremen/ Operator@ Rs. 2016/- per day per person per shift.
 - b) Khallasi@ Rs. 1654/- per day per person per shift.

24 STAFF TO BE DEPLOYED

For SH:I (item no. 1)

a)	Electrician cum wireman-3 Nos
b)	Pump operator-3 Nos
c)	Khallasi -3 Nos

For SH:I (item no. 2)

a)	Electrician cum wireman-3 Nos
b)	Pump operator-3 Nos
c)	Khallasi -3 Nos

For SH:II (item no. 1)

a)	Lift Operator-3 Nos (General Shift)
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For SH:III (item no. 1)

a)	DG Set Operator-6 Nos
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25 QUALIFICATION AND EXPERIENCE

- (i) Wireman/Electrician shall be having valid Electrical license from state PWD for wireman category or ITI /CIDC certificate in Electrician/wireman trade having 2 years experience in similar work & must be acquainted with MV/LV electrical equipment Installation.

- (ii) Wireman cum DG/Pump operator/Lift operator shall be having valid Electrical license from state PWD for wireman category or ITI/CIDC certificate in Electrician/wireman trade having 3 years experience in similar work
 - (iii) A.C. Operator: Should have passed ITI certificate in refrigeration and air conditioning trade and minimum experience of 5 years in the operation of AC Plant.
 - (iv) Khallasi should be physically fit and must have 2 years experience in the line.
26. Log book shall be arranged & maintained by the contractor.
27. Contractor is advised to visit site to see the condition of equipment before quoting rates for determining site conditions. No claim or argument shall be entertained in this regard at later stage and have to make functional.
28. GST, Income Tax, Labour cess and any other tax at source shall be deducted, as applicable as per direction of Govt. of India.
29. The rates should be inclusive of all taxes / duties / levies etc. Nothing extra shall be paid on any account.
30. Biometric attendance system would be arranged at the time of start of agreement by contractor. No request of payment shall be entertained without the submission of biometric attendance. The site engineers must ascertain that the attendance is taken out from the same biometric machine as installed at site. In case the biometric machine gets faulty, the same shall has to be informed by the contractor to the department and the machine shall has to be replaced within 2 days on the occurrence of the fault.
- . 32. The Contractor shall provide following document of each worker/staff before start of work:
- a. Name of worker & Father/ Mothers name.
 - b. Copy of Aadhar Card
 - c. Bank Account Details
 - d. Address with Mobile No.
 - e. Qualification and experience as required in Agreement.
 - f. Passports size colour photos – 2 Nos

EXECUTIVE ENGINEER (E)

Additional Terms & Conditions

A. INTERNAL & EXTERNAL ELECTRICAL SERVICES

1.1 SCOPE OF WORK

1.2 The following Register/Sundry materials shall be arranged free of cost by the contractor.

- a) Prescribed complaint register & Log book of pumps, ceiling fan checking register, Insulation, Resistance test register, Earth Resistance test register, wireman Note Book Diary etc.,.
- b) Insulation Tape, Test Lamp, Fuse wire & cleaning material.

1.0 The following works are covered in scope of the work :-

- a) Attending day to day complaints of all Internal & External Installation.
- b) Routine checking of EI & Fans i/c cleaning of electrical Installation, Feeder pillars, LT panel regularly.
- c) Cleaning & Checking of all compound lighting/street lighting.
- d) Cleaning & Checking of ceiling fans, testing of Insulation & Earth Resistance test after six months twice in a year & proper records are to be maintained in the registers.
- e) Cleaning & Watering of earth pits of electrical installation as & when required.
- f) Cleaning of pumps/pump room.
- g) Wipe out dirt from external surface of equipments in pump room. Keep the pump room dry.
- h) Record all the parameters of reading i.e. voltage, current etc i/c timing of running of pumps in the prescribed pump log book.
- i) Check for leakage in the system in pump room check & tighten all nut bolts, joints, check gasket which need replacement.
- j) Operation of switch gears as & when required.

B. OPERATION & ROUTINE MAINTENANCE OF DG SET

SCOPE OF WORK

1. Inspection of equipments and room.

- i. Clean up equipment rooms remove cobwebs, birds nests etc. check ventilators are clear, exhaust fans, fans and light are operational.
- ii. Wipe out dirt/dust from external surfaces of equipments. Periodicity of cleaning such equipments may be increased in order to avoid frequent switching of equipments.
- iii. Observe for any abnormal noise, vibration, smell (usually due to overheating), exceeding temperature etc. if so, investigate the reasons immediately, radiators of transformers, LT bus bar chambers and LT SFU/FSU and main LT cables (near terminations) may be touched externally to feel any undue heating.
- iv. Look for oil leakage from transformer, radiators/body/bushing/valves and attend.
- v. Check the trip button. Top up as necessary with distilled water in Lead Acid batteries. Examine the trend of the voltage readings from logbook. If the drop is considerable, the cause needs to be investigated. Clean the batteries terminals if required and apply grease to avoid corrosion.

2. Logging of instruments.

- i. Maintain separate logbook for sub station equipment, Instruments to be logged daily logging has to be done in peak loading time, so as to monitor the pattern of loading. Period of power cuts shutdowns should be indicated.
- ii. Logging is needed for voltage (HV/MV/battery), current (HV/MV/battery) power, temperature (maximum) oil, ambient temperature and power factor (and frequency where frequency meter is installed).
- iii. Load on each outgoing feeder to be checked and to be recorded.

3. **Monthly checks of switch gear (HV and MV) and panels.**
 - i. Clean the interior thoroughly. Check that safety shutters (where provided) have closed properly.
 - ii. Mechanical linkages should be lubricated, wherever required. Test for movements of all operations.
 - iii. Check that the HRC fuses are in position, and that safety interlock (with the front cover) is operational.
 - iv. Plug opening/hole (if any) in switchboards, effectively.
 - v. Check the trip battery and charging system for satisfactory condition.
 - vi. Check the level of oil in conservation tank. Arrange to top up with dehydrated, tested oil as necessary.
 - vii. Check the color of oil. If it is dark the reason should be investigated
4. **Quarterly checks:-**
 - i. Examine the moving isolating contacts for discoloration, pitting or sputtering. Also examine the fixed contact as well.
 - ii. Arcing contacts and main contacts should then be similarly examined.
 - iii. Connections at bus bars, bus ducts and switch gear (including control wiring) be checked. Tighten as required. Clean the supports and look for any possibilities of tracking on surface.
5. **Six monthly checks**
 - i. In the case of electrically operated breakers, megger test the motor/solenoid checks for their free movement. Lubricate if necessary.
 - ii. Relay should be tested and settings checked. Relay coil insulation should checked with L T meager.
 - iii. Megger test the panel and check the interior to be free from any foreign matter like cotton waste/flint, dislodged nuts/washers/cut tapes etc.) before energizing again.
 - iv. Test the earth resistance of each electrode and record the same (preferably during summer) and also the integrity of earth connections.

E. LIFT OPERATION & DUTY OF LIFT OPERATORS

1. The contractor should ensure safe operation of lifts in the towers by:-
 - i. Deploying trained operators.
 - ii. Ensuring proper care of lifts.
 - iii. Ensuring proper rescue of stranded person as per manufacturer standard.

Duties of Lift Operator:-

2. First, he will be a literate person, able to read technical instructions and record/maintain log book.
3. He will be trained by lift manufacturers for proper operation of lift, and about safety and technical aspects of lift. He will be trained to rescue stranded person as per proper method of rescue.
4. Proper method of rescuing a stranded passenger:-
 - a. The passenger is able to communicate with the help of emergency bell/intercom.
 - b. The car light, fan, bell, intercom system should get benefit of emergency electric supply.
 - c. The operator is to assure the passenger that he will be rescued shortly and request him to stay calm and not to force open the lift doors.
 - d. Go to lift M/c Room, switch off power supply, bring lift to nearest landing by manual operation, open lift/ landing door. Now passenger can leave the lift.
 - e. Examine the lift, if it is unsafe, then shut down lift service. Don't allow the lift to be used.
 - f. Immediately inform JE /AE/ Lift Service to take necessary action to remove the deficiency of lift.
 - g. Keep "lift out of order/Don't enter lift" handy sign boards to keep in front of such lift.
5. During normal operation of lift, the operator is to ensure;
 - a. No overloading.
 - b. Prevent improper goods transportation, which might damage the lift.
 - c. Misuse of lift.

- d. Passengers should not smoke inside.

Summary:

The basic duties of lift operator are to ensure.

- a. Daily safety checks of lift.
 - b. Cleanliness of lifts.
 - c. Prevent over loading/Misuse/abuse of lift.
 - d. Shutdown lift in case it becomes unsafe and takes immediate action to inform JE/AE/Lift Mechanic /Lift Service Centre and guard the lift till help arrives.
6. The contractor shall accept full and exclusive responsibility of the operation of the lifts in the campus. Lifts are to be operated round the clock & the contractor shall ensure availability at any given time.
 7. The lift operator should inform immediately without waste of time to site Engineer in case of any fault in the lifts.
 8. The lift operator shall daily check the lifts for their safety as per Annexure.
 9. Each lift operator should be trained for proper operation of lift and proper rescue of stranded person. Ensure that passenger stranded inside lift is rescued by method prescribed by lift manufacturers, which include.
 - i. Proper advice to passenger to wait patiently and not to force open any door.
 - ii. Switch off power supply to lift.
 - iii. Bring lift to the nearest landing by manual operation from lift machine room (where providing in case Automatic Rescue Device is not provided.)
 - iv. Then passenger to leave lift.
 10. In case lift becomes unsafe/out of order lift operator is to ensure that nobody enters lift, guard the lift till JE/AE/Mechanic comes and takes over and Inform Lift Service Centre etc.
 11. **Prevent:**
 - i. Overloading.
 - ii. Improper goods transportation.
 - iii. Rough use of lifts.
 12.
 - i. Close the lift inside, lift machine room (Ist shift only)
 - ii. Do daily for lift safety check as per annexure enclosed.
 - iii. After satisfactorily lift safety checks are done, lift will be put to operation for the day.
 13. The basis duty of lift operator is to ensure proper safe handling of lift and to prevent misuse stranded to be executed as per proper procedure. Also prevent the lift to be used in case it has become unsafe. Contact lift service centre immediately. Attending to defective door opening is also a very important function like landing door opening when lift is at the floor, which makes the open lift well a death trap. This requires lift operator to guard this opening till help comes.

14. DAILY SAFETY CHECK & CHECK LIST FOR LIFTS

DAILY SAFETY CHECK

1. First clean lift car inside.
2. Take voltmeter recording.
3. Run the lift to start from ground floor to last landing and back to ground floor, stopping at each floor.
4. Check leveling at each landing.
5. Check door opening/closing at each landing.

6. Check working of all buttons, controls, indication of the lift car.
7. Check working of 'Alarm' switch.
8. Check working of emergency light and fan.
9. Notice any abnormality in running, jerk, improper leveling etc.

15. **CHECK LIST**

(Open Register for daily safety check of each lift to be countersigned by JE/AE once a month.)

1. Lift car, M/c Room cleaned- OK
2. Voltmeter recording machine room –
3. All car buttons functional – OK
4. Emergency alarm working – OK
5. Emergency light, fan working – OK
6. Run the lift from ground floor to highest floor and back to stop at all landing.

Leveling at each floor – OK
 Door opening/closing – OK
 No Jerk/Abnormalities in running – OK.

EXECUTIVE ENGINEER (E)

List of Preferred Make (Brands) of Materials

- 1) List of Preferred Makes (Brands) of materials and names of specialized agencies is attached for usage in execution of work. However, approved equivalent material of any other specialized companies/firms may also be used, in case it is established that the brands specified are not readily available in the market or in other unavoidable circumstances subjected to approval of alternate Brand by Engineer in Charge.
- 2) It must be ensured, in general, that all materials to be used in the works shall bear BIS Certification mark. In cases where for a particular material/product BIS Certification Mark is not available, then the material proposed to be procured can be used subject to the conditions that it should conform to CPWD Specifications and relevant BIS codes. In such cases written approval of the Engineer in Charge shall be obtained before use of such material in their works
- 3) The list given below does not absolve the Executing Agency from their quality and performance, the products shall be used. To achieve this, proper responsibility for using these products. It is only after, they have satisfied about check on the quality of the products, actually to be used, should be exercised.
- 4) The contractor shall obtain prior approval from the Engineer in charge before placing order for any specific material or engaging any of the specialized agencies. The contractor shall make a detailed submittal as per the contract with catalogues and proposed specifications (duly highlighting relevant matter). In case of specialized agencies, they will also submit full details of the works executed by the specialized agencies.
- 5) In case any make included in the preferred makes (brands) list is found to be below the standards of quality and specifications and/or is deficient in any other manner, that make shall be considered as deleted by the Engineer in charge from the list.
- 6) Public procurement (Preference to Make in India) Order (PPP-MIII)-2017 -Revision dated 29.05.2019 and DoT Public Procurement (Preference to Make in India) Order (PPP-MII Order) dated 29.08.2018 with up to date amendments /latest order till the last date of receipt of tender will prevail and shall be complied with.
- 7) The contractor will submit relevant documents to enable the Engineer in charge to verify that manufacturers have valid IS Certification as on date for materials, wherever applicable.
- 8) In case, make for any material to be used in work is not specified in the list, the Engineer in charge may approve the make.
- 9) The above make shall be used if not otherwise mentioned in the nomenclature of respective items.
- 10) Decision of Engineer in charge in case of any discrepancy shall be final and binding on all above points.

APPROVED MAKES OF MATERIALS FOR E & M

S.N o.	Details of material/equipment	Manufacturer`s name/make
	I.E.I., MCBDB & MCB, Cable & Wires	
1	G.I. box with modular plate, Modular /Piano type switch & Socket outlet/Fan Regulator/TV Socket/USB Port/Call bell/Buzzer (Only Premium Series shall be used)	Legrand / Schneider / MK /ABB / LK/Havells/Panasonic(Anchor)
2	MCB / MCB DB and sheet steel Metal enclosed industrial socket, plug top and Isolators	Legrand / Seimens/ L&T / Schneider / ABB /Havells/HPL/ Panasonic(Anchor)
3	Fan	Havells / Crompton /USHA/ Orient/ Almonard
4	LED fittings	Lighting Technologies / Philips/Havells/ Wipro
5	FRLS PVC Insulated Copper conductor single core wire and XLPE Insulated, PVC Sheathed Aluminium conductor UG armoured LT cable and Submersible cable	Havells / Polycab / Finolex /RR Kabel/ Rallison
6	Capacitor	Epcos/ABB/L&T/Siemens/BHEL/Schneider
7	MCCB	Havells/Legrand / Hager / L&T / ABB /Siemens/HPL/ Panasonic(Anchor)
8	G.I. Pipe	Tata / Jindal Hisaar / Sail
9	Smoke detector	ASES (Agni Suraksha)/Bosch/Honeywell/Agni/Notofire
10	Fire Alarm Sounder	ASES (Agni Suraksha)/Bosch/Honeywell/ Agni/ Notofire
11	AC Units	Voltas/Bluestar/Carrier/Hitachi/O-General/Dakin/ Mitshubshi
12	Steel/PVC Conduit & its accessories	NIC/AKG/BEC (All ISI Marked)
13	CAT 6/6A wire cable, Telephone cable	Avaya/Beldon/Legrand/Molex/ Schneider/ AKG/Panasonic(Anchor)

Note:-

Makes other than specified above (if necessary) shall be approved by the **Executive Engineer(E), GED, CPWD, with prior consent of CE/Ghaziabad.**

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

**Executive Engineer(E)
GED, CPWD**

Schedule of Quantity

Name of Work:-Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical).						
S.No	Description of Items	Qty.		Rate	Unit	Amount
	SH-I - (Internal EI and Fans)					
1	Providing services for Routine maintenance of Head Qtrs Building at A-24/25, including attending day-to-day complaints of all internal electrical installation and external electrical installation i.e. fittings, fans, electrical panels, feeder pillars street light, compound light, etc i/c operation and routine maintenance of water supply pump set, 2 x 630 KVA Transformer , 2x320 KVA DG Set with AMF Panel, 800 A VCB HT & 2500 A ACB's LT Panel, Associated switch gear, all MCCBs, ACB/OCB, incoming and outgoing cables, capacitor panel, metering equipment, 13 passenger 3 Nos lifts and 1 Nos. 1000kg goods lift on all days i/c Sundays and holidays as per additional terms and conditions attached. daily cleaning, checking, upkeeping of all above services & maintaing the log books in all working days including holidays and Sundays or as per direction of engineer- in charge etc. Duty of the staff to be decided as per direction of Engineer-in-charge as required. (Inverntory of equipment is attached).					
1.1	Electrician cum wireman- 3 Nos					
1.2	Pump operator- 3 Nos					
1.3	Khallasi -03 Nos	12.00	Month	355558.00	Month	4266696.00
2	Providing services for Routine maintenance of NIOS Regional Center, A-31 including attending day-to-day complaints of all internal electrical installation and external electrical installation i.e. fittings, fans, electrical panels, feeder pillars street light, compound light, etc i/c operation and routine maintenance of water supply pump set, 2x400 KVA Transformer, 2x180 KVA DG Set with AMF Panel, 800 A ACB, LT Panel, Associated switch gear, all MCCBs, ACB/OCB, incoming and outgoing cables, capacitor panel, metering equipment 13 passenger 2 Nos lifts and 1 No. 1000kg goods lift on all days i/c Sundays and holidays as per additional terms and conditions attached. daily cleaning, checking, upkeeping of all above services & maintaing the log books in all working days including holidays and sundays or as per direction of engineer- in charge etc. as required.Duty of the staff to be decided as per direction of Engineer-in-charge(Inverntory of equipment is attached)					
2.1	Electrician cum wireman- 3 Nos					
2.2	Pump operator- 3 Nos					

2.3	Khallasi -03 Nos	12.00	Month	355558.00	Month	4266696.00
3	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
3.1	5/6 A switch	200	Nos	121.00	Each	24200.00
3.2	15/16 A switch	100	Nos	176.00	Each	17600.00
3.3	3 pin 5/6 A socket outlet	100	Nos	136.00	Each	13600.00
3.4	6 pin 15/16 A socket outlet	150	Nos	219.00	Each	32850.00
3.5	Bell push	30	Nos	159.00	Each	4770.00
4	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required.					
4.1	1 or 2 Module (75mmX75mm)	20	Nos	156.00	Each	3120.00
4.2	3 Module (100mmX75mm)	30	Nos	175.00	Each	5250.00
4.3	4 Module (125mmX75mm)	30	Nos	182.00	Each	5460.00
4.4	6 Module (200mmX75mm)	30	Nos	207.00	Each	6210.00
4.5	8 Module (200mmX75mm)	25	Nos	238.00	Each	5950.00
4.6	12 Module (200mmX150mm)	20	Nos	301.00	Each	6020.00
5	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
5.1	Single pole	50	Nos	285.00	Each	14250.00
5.2	Single pole and neutral	25	Nos	643.00	Each	16075.00
6	Brush Less Direct Current (BLDC) Fan without Remote Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal(Aluminium alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body Power Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, suitable for operation with regulator for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 0C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply, Ceiling Fan compliant to IS 374:2019 fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required					
6.1	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	70	Nos	2695.00	Each	188650.00
7	LED Batten light (System lumen efficacy ≥ 105 lm/Watt). Supplying, Installation, Testing & Commissioning of LED surface mounted Batten light of following body material and construction as per IS : 10322					

	with driver (Replaceable) as per the requirement with Driver efficiency >85%, Operating voltage AC 140- 270 Volt, frequency 50/60 hz, Operating temp range -5 °C to 40 °C, internal surge protection of 2.5 KV with Short & Open circuit protection, THD < 10%, P. F.≥0.95, IP20, CRI >80, Flicker free, (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 <120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in- Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body (Thickness > 1.20 mm)					
7.1	36 watt	150	Nos	678.00	Each	101700.00

8	LED Down lighter (SMD Type) (System lumen efficacy $\geq 105 < 120$ lm/Watt) Supplying, Installation, Testing & Commissioning of LED Recessed/ surface Down lighter (Round/ square/ Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS : 10322 with driver as per the requirement with Driver efficiency $>85\%$, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -50C to 400C, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD $< 10\%$, P. F.≥ 0.95, IP20, CRI >80, UGR (Unified Glare Rating) < 19, Flicker free (flicker should be below 5%), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K /4000°K / 5700°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing Complete in all respect i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥ 105 and <120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C) Powder coated die cast /Extruded aluminium Body including trim					
8.1	18 watt	100	Nos	920.00	Each	92000.00
8.2	12-15 watt	50	Nos	715.00	Each	35750.00

9	LED Street light fixture, powder coated pressure die cast aluminium body (System lumen efficacy ≥ 105 <120 lm/Watt) Supplying, installation, Testing & Commissioning of Street light LED fixture powder coated pressure die cast aluminium body with driver as per the requirement with Driver efficiency >85%, Input voltage: 140-270 Volt AC, frequency 50/60 hz, Operating temp range -5 0C to 50 0C, internal surge protection of 5 KV L,N,E as per IEC 61000-4-5, Driver efficiency >85%,THD < 10% as per IEC 61000-3-2, P. F.$\geq$0.95, IP-66,IK-10, CRI >70, under voltage and over voltage protection, EMIEMC As per CISPR -15, lenses for beam angle as per IESNA type I/II/III as per the width of the road and the project requirement., suitable to fit in up to 65mm dia pipe, life time (LED, Driver & electrical circuitry) of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin),SDCM (Standard Deviation Colour Matching) <5, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard complete in all respect i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥ 105 <120 lm/Watt output .LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).					
9.1	72 watt	15	Nos	1920.00	Each	28800.00

10	LED Panel light 2x2 ft. (System lumen efficacy ≥ 105 <120 lm/Watt) Supplying, installation, Testing & Commissioning of Panel light 2x2 ft., of following body material and construction as per IS : 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5 0C to 40 0C, internal surge protection of 2.5 KV with Short & Open circuit protection, THD < 10% , P. F ≥ 0.95 , IP20, CRI >80, UGR (Unified Glare Rating) < 19, Flicker free, (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with, 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥ 105 <120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body (Thickness > 1.20 mm)					
10.1	36 watt	100	Nos	2508.00	Each	250800.00
11	Supplying and drawing following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.					
11.1	3 x 1.5 sq. mm	1000.00	Mtr	104.00	P/Mtr	104000.00
11.2	3 x 2.5 sq. mm	500.00	Mtr	148.00	P/Mtr	74000.00
11.3	3 x 4 sq. mm	500.00	Mtr	222.00	P/Mtr	111000.00
12	Supplying and fixing (Fixing to be done by staff engaged against item no.1/2) following electrical accessories complete as required.					
12.1	Capacitor 2.5 mfd	100	Nos	26.00	Each	2600.00
12.2	Capacitor 3.15 mfd	100	Nos	29.00	Each	2900.00

13	Supplying, installation, Testing & Commissioning of 36 watt recess mounted 4 x 1 LED Panel having following specification:- i) Material of housing :- CRCA powder coated ii) System Lumen : Min 3780 lumens iii) THD :- THD < 15 %, iv) CCT :- 4000/5700/6500K or as per Engineer-in charge v) System efficacy :- Min 105 lumens/watt vi) CRI > 80. vii) P.F> Min 0.90 viii) Suitable for Operating voltage range : 230 V , 50 Hz i/c. connection with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and earthing, complete etc. as required	20	Nos.	3245.00	Each	64900.00
14	SITC of 10-watt LED batten (Mirror light) approx 600 mm (nominal size) LED luminaire made of Al. housing minimum efficacy 105 LPW suitable for 220–240-volt single phase AC supply, colour Temp 5700/ 6000 K (IP-20) minimum life 50000 Hrs @ L70, THD <20%, IP-20, CRI>80 i/c. connection with 1.5 sq.mm PVC insulated copper wire connection, testing, commissioning etc. complete as required.	30	Nos.	243.00	Each	7290.00
15	Supplying, installation, Testing & Commissioning of 36 watt SURFACE mounted 4 x 1 LED Panel having following specification:- i) Material of housing :- CRCA powder coated ii) System Lumen : Min 3780 lumens iii) THD :- THD < 15 %, iv) CCT :- 4000/5700/6500K or as per Engineer-in charge v) System efficacy :- Min 105 lumens/watt vi) CRI > 80. vii) P.F> Min 0.90 viii) Suitable for Operating voltage range : 230 V , 50 Hz i/c. connection with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and earthing, Led panel hang/installed with Light Hanging suspension kit or directly install in surface through 4 nos. fastener etc. as required	100	Nos.	3416.00	Each	341600.00
16	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, Ics=100% Icu and Operational Voltage 690V etc. as required.					
16.1	125 A,36KA,FPMCCB	5	Nos	8644.00	Each	43220.00
16.2	200 A,36KA,FPMCCB	5	Nos	15956.00	Each	79780.00
16.3	250 A,36KA,FPMCCB	5	Nos	18372.00	Each	91860.00
17	Lifting of defective /burnt out 5 HP to 20 HP submersible pump & motor set with column pipes upto 250 feet depth (3.0 to 6.0 meter length GI pipe with power cable) by means of manually or mechanically with the help of tripod/chain pully etc i/c providing and replacement of damaged/rusted nuts, bolts etc with all accessories complete as required.	2	Job	4333.00	Job	8666.00

18	Lowering of defective /burnt out 5 HP to 20 HP submersible pump & motor set with column pipes upto 250 feet depth (3.0 to 6.0 meter length GI pipe with power cable) by means of manually or mechanically with the help of tripod/chain pulley etc i/c providing and replacement of damaged/rusted nuts, bolts etc with all accessories complete as required.	2	Job	4333.00	Job	8666.00
19	Supplying & fixing PVC insulated PVC sheathed copper conductor submersible flat cable ISI Marked in existing metal/ HDPE / PVC/ pipe/ in bore well/ in sump including fixing the cable to GI/HDPE pipe with suitable cable tags of following sizes etc. complete as required.					
19.1	3 Core 4.0 Sq mm Flat Cable	150	Mtrs.	186.00	Mtrs.	27900.00
19.2	3 Core 6 Sq mm Flat Cable	150	Mtrs.	266.00	Mtrs.	39900.00
20	Supplying & fixing & lowering of following sizes 'B' class G.I. pipe with flange and making groove for cable on both sides duly threaded and welded in the length of 3 Mtrs each fixing with suitable size & number of S.S. Nut & bolts i/c. lowering of pipe etc. complete (Column Pipe) as required.					
	a) 80mm dia	60	Mtrs.	931.00	Mtrs.	55860.00
21	Supplying, installation, testing & commissioning of smoke detector with builtin LED and mounting base complete with all connections etc. as required	50	Nos	1223.00	Each	61150.00
22	Supplying, installation, testing & commissioning of manual call box of ABS type in surface/recess with stainless steel chain & hammer assembly complete with glass and push button etc. as required.	40	Nos	444.00	Each	17760.00
23	Supplying, installation, testing & commissioning fire alarm sounder with facility to make announcement, mounted in A.B.S. box with hinged cover plate & suitable for operation with amplifier i/c line matching transformer etc. complete as required.	20	Nos	530.00	Each	10600.00
24	Supplying & laying of 2x1.5 sqmm fire alarm armoured cable, 600/1000V rated with annealed copper conductor having XLPE insulation, steel wire armouring & FRLS/HFFR outer sheath complete as required.	200.00	Mtr	192.00	Mtrs.	38400.00
25	Supplying, Installation, Testing and commissioning of CAT6A Copper Information Outlet (IO) with face plate of color as per site requirement, should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D. All copper Cable and Components should be from same OEM to maintain compatibility and interoperability etc. complete as required.	20	Nos	302.00	Each	6040.00

26	WINDOW AC UNITS Supplying , Installation, Testing and Commissioning of Window type Air conditioners complete with copper power cable upto 3 Mtr, wireless Remote, suitable for working between 180- 260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing, cooling, dehumidification, air circulation, R-32/R-410A /R-407B Green Refrigerant with Scroll / rotary compressor with min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB), antifreeze thermostat on the coil as a safety feature, complete with fixing including T&P & labour etc as required complete in all respect as specified of following capacity. Sound level of up to 50dB inside the room is acceptable. The unit shall be in confirmation with IS 1391 Part-I 2023 and CPWD Specification. The system shall be able to deliver 100% of the rated capacity upto 42 0C. The system shall be able to operate up to 50 0C (out door ambient temperature). Non Inverter Type					
26.1	1.5 TR with Inverter 5 Star BEE rating	5	Nos	40074.00	Each	200370.00
27	HI -WALL SPLIT SYSTEMS Supplying , Installation, Testing and Commissioning of Air Cooled Hi Wall split type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 3 Mtr (IDU to ODU), copper power cable upto 3.5 Mtr (IDU to ODU) i/c drain pipe R-32/R-410/ R-407 Green Refrigerant, wireless Remote control, suitable for working between 180- 260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing cooling, dehumidification, air circulation of following capacity with Scroll / rotary compressor. The system shall be able to deliver 100% of the rated capacity upto 42 0C. Min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB). Must comply : Electrical cable IS 694 or IS 9968 temperature sensing control IS /International Electrotechnical Commission (IEC) 60730, hermetic compressor IS 10617, heat exchanger IS 11329, capacitor IS 2993 and motor IS 12615. Complete as per CPWD specification and IS : 1391 Part II 2023. The system shall be able to operate up to 50 0C (out door ambient temperature). Inverter Type - Cooling only					
27.1	1.5 TR with 5 Star BEE Rating	10	Nos	43539.00	Each	435390.00

28	HI - WALL SPLIT SYSTEMS Supplying , Installation, Testing and Commissioning of Air Cooled Hi Wall split type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 3 Mtr (IDU to ODU), copper power cable upto 3.5 Mtr (IDU to ODU) i/c drain pipe R-32/R-410/ R-407 Green Refrigerant, wireless Remote control, suitable for working between 180- 260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing cooling, dehumidification, air circulation of following capacity with Scroll / rotary compressor. The system shall be able to deliver 100% of the rated capacity upto 42 0C. Min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB). Must comply : Electrical cable IS 694 or IS 9968 temperature sensing control IS /International Electrotechnical Commission (IEC) 60730, hermetic compressor IS 10617, heat exchanger IS 11329, capacitor IS 2993 and motor IS 12615. Complete as per CPWD specification and IS : 1391 Part II 2023. The system shall be able to operate up to 50 0C (out door ambient temperature). Inverter Type - Cooling only					
28.1	2.0 TR with 5 Star BEE Rating	15	Nos	57396.00	Each	860940.00
29	Supplying and drawing following pair 0.5 mm dia FRLS/HFFR PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.					
29.1	2 Pair	300.00	Mtr	39.00	Mtrs.	11700.00
30	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.					
30.1	20 mm	100.00	Mtr	151.00	Mtrs.	15100.00
30.2	25 mm	200.00	Mtr	168.00	Mtrs.	33600.00
31	Supplying, drawing, Testing and commissioning of Cat6A UTP 4 pair, 23 AWG solid copper cable in existing conduit/ on surface, U/FTP, LSZH, Non-Plenum, Horizontal (solid) Cable suitable for high speed data networking application supporting upto 10Gbps over a 100 meter channel. The 4 Unshielded Twisted Pairs (UTP) cable with color coded insulation for easy identification should have FLAME PROPERTIES i.e. Flammability Test - IEC 60332-1, Smoke Density - IEC 61034, LSZH standards compliance: ANSI/TIA-568 C.2, ISO/IEC 11801, IEEE 802.3an, RoHS. Delay Skew should be < 45NS. The outer Cable Diameter should be 7.5 + 2 mm. Cable should have been tested and verified by UL/ ETL etc. complete as required.					

31.1	1 Run of cable	200.00	Mtr	74.00	Mtrs.	14800.00
32	SITC of wall mounted fan of 400mm sweep complete with all accessoriess and mounting arrangement on wall suitable for single phase, 50 hz, AC supply i/c connection etc as required	50	Nos	2289.00	Each	114450.00
33	SITC of fresh air fan of following size complete with all accessories, ISI marked of following size suitable for single phase supply complete etc as required.					
33.1	250mm	50	Nos	1308.00	Each	65400.00
34	SITC of heavy duty metallic exhaust fan ISI marked of following size suitable for single phas supply, 900 rpm with louver / shutter complete as per model of make list i/c connection complete etc as required.					
34.1	300mm size	20	Nos	2809.00	Each	56180.00
35	Less credit of Old Dismanteld Materials					
35.1	Assorted Switch/Socket	270	Nos.	-0.50	Each	-135.00
35.2	Assorted Ceiling Fan	70	Nos.	-150.00	Each	-10500.00
35.3	Assorted 2x2/1x4 Ft. Light	220	Nos.	-30.00	Each	-6600.00
35.4	Assorted MCB (5A-32A)	75	Nos.	-20.00	Each	-1500.00
35.5	Assorted Down light/Batten light/Mirror light	130	Nos.	-20.00	Each	-2600.00
35.6	Assorted FPMCCB (125A-250A)	7	Nos.	-500.00	Each	-3500.00
35.7	Assorted G.I Column Pipe	40.00	Mtrs.	-150.00	Mtrs.	-6000.00
	Total of Sub-Head-1					12361634.00
	SH-II- (Operation of Lifts)					
36	Providing services for Routine maintenance of Head Qtrs Building at A-24/25 and NIOS Regional Center, A-31 including attending day-to-day complaints etc i/c operation and routine maintenance of ,13 passenger 3 Nos lifts and 1 Nos. 1000kg goods lift, 13 passenger 2 Nos lifts and 1 No. 1000kg goods lift on all days i/c Sundays and holidays as per additional terms and conditions attached. Operation & routine maintenance of Lifts on all days including Sunday. daily cleaning, checking, upkeeping of all above services & maintaing the log books in all working days including holidays and sundays or as per direction of engineer- in charge etc. as required.(Inverntory of equipment is attached).					
36.1	Lift Operator- 3 Nos (general shift)	12.00	Month	126065.00	Month	1512780.00
	Total of Sub-Head-2					1512780.00
	SH-III- (AMC Of DG Set)					

37	Providing services for Routine maintenance of Head Qtrs Building at A-24/25 and NIOS Regional Center, A-31 including attending day-to-day complaints etc i/c operation and routine maintenance of , 2x320 KVA DG Set with AMF Panel, 2x180 KVA DG Set with AMF Panel, on all days i/c Sundays and holidays as per additional terms and conditions attached. Operation & routine maintenance of DG Set on all days including Sunday i/c daily cleaning, checking, upkeeping of all above services & maintaing the log books in all working days including holidays and Sundays or as per direction of engineer- in charge .Duty of the staff to be decided as per direction of Engineer-in-charge(Inverntory of equipment is attached).					
37.1	DG Set Operator- 6 Nos	12.00	Month	252130.00	Month	3025560.00
38	Providing services for Annual Comprehensive Maintanance of following Capacity Cummins Make D.G.Set comprising of Engine Alternator Self Starter AMF Panel and Battries etc as reqd at site.					
38.1	2x180 KVA DG Set Cummins Make	12.00	Month	7283.00	Month	87396.00
38.2	2x320 KVA DG Set Cummins Make	12.00	Month	8817.00	Month	105804.00
	B- Check and Spares					
39	Supplying and replacement of following spare parts of 2x180KVA & 2x320 KVA DG set Cummins Make or Routine check up and as and when required etc complete as required.					
39.1	ESN- 25754008 ENGINE.6CTA-8.3-G2-I.219; 180 KVA					
a	HOSE, ELBOW -3815501	1	Nos.	1450.00	Each	1450.00
b	KIT, FIELD REPAIR -A051C218	1	Nos.	55817.00	Each	55817.00
c	BELT, V RIBBED -5690200	1	Nos.	9248.00	Each	9248.00
d	TOWARDS THE ALTERNATOR SERVICING CHARGE -CSSER0136	1	Nos.	22841.00	Each	22841.00
e	PULSE VALUE PLUS BATTERY -AX1014429	2	Nos.	11660.00	Each	23320.00
f	B CHECK KIT, 6CTA -3238543	1	Nos.	7733.00	Each	7733.00
g	KIT AIR CLEANER ELEMENTS -3238667	1	Nos.	7060.00	Each	7060.00
h	INHIBITOR, CORROSION -3167222	4	Nos.	1724.00	Each	6896.00
i	TOWARDS THE RADIATOR CLEANING /DE-SCALING CHARGES FOR YOUR CUMMINS DG SET-CSRAD180TO250	1	Nos.	11074.00	Each	11074.00
j	VALVOLINE PREMIUM BLUE 7800 PLUS 1/20 LTR -505441	2	Nos.	13158.00	Each	26316.00
39.2	ESN 25753812 ENGINEENGINE.6CTA-8.3-G2-I.219; 180 KVA					
a	HOSE, ELBOW -3815501	1	Nos.	1450.00	Each	1450.00
b	B CHECK KIT, 6CTA -3238543	1	Nos.	7733.00	Each	7733.00
c	KIT, FIELD REPAIR -A051C218	1	Nos.	55817.00	Each	55817.00

d	PULSE VALUE PLUS BATTERY -AX1014429	2	Nos.	11660.00	Each	23320.00
e	KIT AIR CLEANER ELEMENTS -3238667	1	Nos.	7060.00	Each	7060.00
f	INHIBITOR, CORROSION -3167222	4	Nos.	1724.00	Each	6896.00
g	CLAMP, HOSE -43828 D	8	Nos.	114.00	Each	912.00
h	HOSE, PLAIN -67185 H	3	Nos.	1077.00	Each	3231.00
i	BELT, V RIBBED -5690200	1	Nos.	9248.00	Each	9248.00
j	TOWARDS THE ALTERNATOR SERVICING CHARGE -CSSER0136	1	Nos.	22841.00	Each	22841.00
k	TOWARDS THE RADIATOR CLEANING /DE-SCALING CHARGES FOR YOUR CUMMINS DG SET-CSRAD180TO250	1	Nos.	11074.00	Each	11074.00
l	VALVOLINE PREMIUM BLUE 7800 PLUS 1/20 LTR -505441	2	Nos.	13158.00	Each	26316.00
39.3	ESN 25315331 ENGINE ENGINE.NTA-855-G2-I.380; 320 KVA					
a	GASKET, ROCKER LEVER COVER -4072426	3	Nos.	1125.00	Each	3375.00
b	INHIBITOR, CORROSION -3167222	1	Nos.	1724.00	Each	1724.00
c	KIT AIR CLEANER ELEMENTS -3238667	1	Nos.	15840.00	Each	15840.00
d	KIT, FUEL FILTER AND RING -3238493	1	Nos.	1675.00	Each	1675.00
e	ELEMENT, LUB OIL FILTER -3238204	1	Nos.	1189.00	Each	1189.00
f	KIT, SUPER BYP.FILTER ELEM -3879488	1	Nos.	2458.00	Each	2458.00
g	SEAL, O RING -3010937	1	Nos.	39.00	Each	39.00
h	VALVOLINE PREMIUM BLUE 7800 PLUS 1/20 LTR -505441	2	Nos.	13158.00	Each	26316.00
39.4	ESN 25315331 ENGINE ENGINE.NTA-855-G2-I.380; 320 KVA					
a	SEAL, O RING -3010937	1	Nos.	39.00	Each	39.00
b	BELT, V RIBBED -5413187	1	Nos.	3936.00	Each	3936.00
c	KIT AIR CLEANER ELEMENTS -3238358	1	Nos.	15840.00	Each	15840.00
d	INHIBITOR, CORROSION -3167222	8	Nos.	1724.00	Each	13792.00
e	KIT, FUEL FILTER AND RING -3238493	1	Nos.	1675.00	Each	1675.00
f	ELEMENT, LUB OIL FILTER -3238204	1	Nos.	1189.00	Each	1189.00
g	KIT, SUPER BYP.FILTER ELEM -3879488	1	Nos.	2458.00	Each	2458.00
h	PULSE VALUE PLUS BATTERY -AX1014429	2	Nos.	11660.00	Each	23320.00
i	HOSE, FLEXIBLE -AK 8052 MS	1	Nos.	5243.00	Each	5243.00
j	BELT, V -3040349	1	Nos.	1848.00	Each	1848.00
k	BELT-178636	3	Nos.	2866.00	Each	8598.00
l	VALVOLINE PREMIUM BLUE 7800 PLUS 1/20 LTR -505441	2	Nos.	13158.00	Each	26316.00
	Total of Sub-Head-3					3723283.00
	Total of all Sub-Head(1 to 3)					17597697.00

**Executive Engineer(E),
GED, CPWD, Ghaziaba**

PART –B

Civil Work

PROFORMA OF SCHEDULES

SCHEDULE 'A'

Schedule of quantities, enclosed on separate sheet on page no. **122 to 138**

SCHEDULE 'D'

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

1. General conditions & Additional conditions
2. Special Conditions
3. Particular Specifications
4. Guarantee Bonds

SCHEDULE 'E'

Reference to General Conditions of contract: - **GCC maintenance work-2023, as modified & corrected up to previous day of the last date of submission of tender**

Name of work:

Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).

Estimated cost of work:-

Rs. 2,51,85,517/- (Electrical Work: Rs. 1,75,97,697/- + Civil Work: Rs. 75,87,820/-)

(i) Earnest money:-

Rs. 5,03,710/-

(ii) Performance Guarantee:-

(a) 5% of the estimated cost put to tender (ECPT) or contract amount whichever is higher.
(b) Where the tender amount is less then 80% of the Estimated cost Put to Tender (ECPT) the Performance Guarantee (PG), in additional to the required under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.

(iii) Security deposit :-

As per Major component

SCHEDULE 'F'

General Rules & Directions: -

Officer inviting tender:

Executive Engineer (E), Ghaziabad Electrical Division, CPWD, Hindan, Ghaziabad.

Definitions:

2 (v) Engineer-in-Charge

Executive Engineer, Noida Central Division, CPWD, NSTI Campus, Noida.

- 2 (viii) Accepting Authority **Chief Engineer, Ghaziabad, CPWD, CGO-I, Hapur Road, Ghaziabad.**
- 2 (x) Percentage on cost of materials and labour to cover all overheads and profits. **15%**
- 2 (xi) Standard schedule of Rates **Delhi Schedule of Rates-2023 as modified & corrected up to previous day of the last date of submission of tender**
- 2 (xii) Department **C.P.W.D.**
- 9 (ii) Standard CPWD contract form **GCC 2023 for Maintenance works CPWD form 7 as modified and corrected up to previous day of the last date of submission of tender.**

<u>Clause 1</u>	
(i) Time allowed for submission of performance guarantee, programme chart (time and progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance.	As per Major component
(ii) Maximum allowable extension with late fee at 0.1% per day of performance guarantee amount beyond the period provided in (i) above	As per Major component
<u>Clause 2</u>	
Authority for fixing compensation under clause 2	Chief Engineer, (Ghaziabad), CPWD. Or successor thereof.
<u>Clause 2A</u>	
Applicable clause 2/ Clause 2A	As per Major component
<u>Clause 5</u>	
Number of days from the date of issue of letter of acceptance for reckoning date of start.	As per Major component

Table of Milestone (s)

Mile stone(s) as per table given below:- Applicable		
Description of mile stone(Financial)	Period for completion(from date of start in months)	Withheld amountfor non-achievement of mile stone.
As per Major component		
Note: The withhold milestone will only be released when subsequent milestone is achieved within the specified time.		

Time allowed for execution of work

12 Months

Authority to decide:	
1. Authority to convey the decision of shifting of milestone and extension of time	Executive Engineer/Noida Central Division /CPWD/ New Delhi.
2. Authority to decide rescheduling of milestone and extension of time	Chief Engineer-Ghaziabad, CPWD, CGO-I, Hapur Road, Ghaziabad.
3. Shifting of date of start in case of delay in handing over of site	Chief Engineer-Ghaziabad, CPWD, CGO-I, Hapur Road, Ghaziabad.

Clause 5.0 -PROFORMA OF SCHEDULES

Schedule of handing over of site

Part	Portion of site	Description	Time Period for handingover reckoned from date of issue of letter of intent.
Part-A	Portion without any hindrance	Site will be made available in phased manner	
Part-B	Portions with encumbrances		
Part-C	Portions dependent on work of other agencies		

Clause 5A

Applicable Clause 5/ Clause 5A

: As per Major component

Clause 6

Mode of measurement

: As per Major component

Clause 7

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

: **Rs. 6.35 Lakh**

Clause 7A

Whether Clause 7A shall be applicable

Yes

Clause 8

Competent authority to inspect and issue Completion Certificate

**Executive Engineer, Noida Central
Division, CPWD, IP Bhawan, New Delhi.**

Clause 10A

List of testing equipment to be provided by the contractor at site lab.

List at Page no. 114 - 115 (Annexure-I & II)

Clause 10 – B(ii)

Whether clause 10-B(ii) shall be applicable.

No

Clause 10C -

Component of labour expressed as percentage of value of work: -

Applicable

25%

Clause 10CC

Component of labour expressed as percentage of value of work: -

: **Not Applicable**

: **----**

Clause 11

Specifications to be followed forexecution of work

CPWD Specifications 2019, Volume-I and II with correction slips issued up to previous day of the last date of submission of bid and manufacturer's specification wherever applicable.

Clause 12 Type of Work The completion cost of agreement should not exceed 1.50 times of Tendered amount (As per DG/CON/Maintenance 2023/03 Dated: - 18/12/2023)	No Limit (Maintenance work)
Authority to decide Deviation: -	
(i) Upto 1.25 times of Contract Amount (with recorded reasons) (ii) Beyond 1.25 times upto 1.50 times of Contract amount (with recorded reasons)	(i) Executive Engineer-Noida Central Division CPWD, New Delhi. (ii) Chief Engineer-Ghaziabad, CPWD, CGO-I, Hapur Road, Ghaziabad
Clause 16	
Competent Authority for deciding reduced rates.	Chief Engineer-Ghaziabad, CPWD, CGO-I, Hapur Road, Ghaziabad.
Clause 18 List of mandatory machinery tools and plants to be deployed by the contractor at site of work.	As per site requirement and direction of Engineer-in-charge

Clause 19 C..... authority to decide penalty for each default **Engineer- in-charge.**

Clause 19 D..... authority to decide penalty for each default **Engineer-in-charge.**

Clause 19 Gauthority to decide penalty for each default **Engineer- in-charge.**

Clause 19 Kauthority to decide penalty for each default **N/A**

Clause 25

(i)	Conciliator:	ADG (Lucknow), CPWD or his successor thereof.
(ii)	Arbitrator appointing authority:	Chief Engineer, Ghaziabad, CPWD or his successor thereof.
(iii)	Place of Arbitration	Noida

Clause 32**“Requirement of Technical Representative (s) and Recovery Rates”**

Sl. No.	Requirement of Technical		Minimum Experience (Years)	Designation Technical Staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause	
	Qualification	Number (of Major + Minor Component)			Figures (inRs.)	Words
1	As per Major component					

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers. Diploma holder with minimum 10 years relevant experience with a reputed construction company can be treated at par with graduate Engineers for the purpose of such deployment subject to the condition that such diploma holder should not exceed 50% of requirement of degree engineers.

Clause 38

- (i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of **Delhi Schedule of Rates 2023** printed by CPWD with up-to-date correction slips till last date of submission of tender.
- (ii) Variations permissible on theoretical quantities:
- (iii) Cement
 - (a) (i) For works with estimated cost put to 3% plus/minus tender not more than Rs. 25 lakhs
 - (ii) For works with estimated cost put to 2% plus/minus tender more than Rs 25 lakh
- b) Bitumen for all works. 2.5% on plus side only & nil on minus side
- c) Steel Reinforcement and structural steel sections for each diameter, section and category. 2% plus/minus
- d) All other materials. Nil

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl. No	Description of Item	Rates in figures and words at which recovery shall be made from the Contractor.	
		Excess beyond permissible variation	Less use beyond the permissible variation
1	Cement OPC	NIL	Not permissible
2	Cement PPC	NIL	Not permissible
3	Reinforcement Bars (TMT) Fe500 D-12 mm (a) Primary Producer	NIL	Not permissible
4	Structural steel	NIL	Not permissible

GENERAL CONDITIONS

The work has to be carried out at **Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Electrical and Civil Work).**

- 1.0** The work in general shall be carried out in accordance with the CPWD Specifications 2019 Vol. I to II (corrected up to the last date of submission / uploading of bid) hereinafter referred as CPWD Specifications.
Unless otherwise provided in the Specifications, the amount tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same.
- 2.0** The work in general shall be carried out in accordance with the CPWD Specifications 2019 Vol. I & II with up-to-date correction slips.
- 3.0** The order of preference in case of any discrepancy as indicated in condition no. 8.1 under “Conditions of Contract” given in the Standard CPWD Contract form may be read as the following:
 - a) Nomenclature of item as per schedule of quantities.
 - b) Particular specifications and Special conditions, if any.
 - c) Additional conditions.
 - d) Contract Clauses of Standard CPWD contract form.
 - e) Drawings
 - f) CPWD Specifications as applicable.
 - g) Indian standard specifications of BIS
 - h) Manufacture’s specifications
 - i) Sound Engineering Practice as per direction of Engineer-in-charge.

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

- 4.0** The sample of all the items shall have to be got approved by the contractor from Engineer-in-charge before the supply is commenced.
- 5.0** The contractor shall, if required, furnish the manufacturer’s certificate that the materials supplied satisfy the requirements of the relevant specifications.
- 6.0** **All the materials brought to the site by the contractor for use in the work as well as fabricated work shall be subject to the inspection and approval by the Engineer-in-charge. The contractor shall be required as directed by the Engineer-in-charge to get necessary tests carried out on materials and works. The samples of the materials shall be provided free of cost by the contractor. All other incidental expenditure to be incurred for testing of samples e.g. Packaging, sealing, transportation, loading, unloading etc. and testing charges (unless specifically provided for otherwise elsewhere in the contract or specification) for conducting tests as per specification, shall be borne by the contractor.**

- 7.0 In case any material is rejected by the Engineer-in-charge, the same shall be removed from the site within 48 hours, failing which the same shall be got removed by the Engineer-in-charge at risk and cost of contractor.
- 8.0 Royalty, Octroi, Terminal Tax or any other taxes/charges etc. at prevalent rates shall have to be paid by the contractor himself and the rates quoted by him shall include these duties and nothing extra on this account shall be payable.
- 9.0 The contractor shall take all safety precautions to avoid accidents by exhibiting caution boards, red flags, red lights and by providing necessary barriers barricading at his own cost and all other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.
- 10.0 The contractor shall give due notices to Municipality, Police and / or other authorities that may be required under the law/ rules under force and obtain all requisite permissions/ licenses for temporary obstructions/ enclosures and pay all charges which may be leviable on account of his execution of the work under the agreement. Nothing extra shall be payable on this account.
- 11.0 All materials shall be got checked by the Engineer-in-Charge on receipt of the same at site before use.
- 12.0 The contractor shall carry out 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 off the materials being used or removed, so as not to interfere with the operations of other contractors, or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Engineer-in-Charge.
- 13.0 The contractor shall give the Engineer-in-charge on the 4th day of each month, a progress report of the work done during the previous month. The progress of work will be reviewed periodically by the Engineer-in charge with the contractor and shortfalls, if any, sorted out. The contractor shall thereupon take such action as may be necessary to bring back his work to schedule without any additional cost to the department.
- 14.0 The contractor shall fully comply with all **legal orders and directions** of the Public or local authorities or municipality and adhere by their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same.
- 15.0 The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra shall be paid on this account.
- 16.0 If as per local Municipal regulations or if space is not available at site huts for labourers are not to be erected at the site of work, the contractor shall be required to provide such accommodation at a place outside the campus as is acceptable to the local body and nothing extra shall be paid on this account.

- 17.0 It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
- 18.0 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.

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

19.0 **Condition regarding secured advance: -**

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

- 20.0 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 to and from carriage charges in connection therewith. The cost of tests shall be borne by the contractor.
- 21.0 The contractor shall prepare an integrated program chart with mile stones of completion of whole work except day-to-day maintenance. The program chart should include the following: -
- a) Descriptive note explaining sequence of various activities.
 - b) Network (PERT/CPM / BAR CHART) in MS Projects or any other approved Program by the Engineer-in –charge.
 - c) Program for procurement of materials by the contractor.
 - d) Program of procurement of machinery/ equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
 - e) If at any time it appears to the Engineer-in-Charge that the actual progress of the work does not conform to the approved Program referred above, the contractor shall produce a revised Program showing the modifications to the approved Program to ensure completion of the work within the stipulated time for completion.
- 22.0 The submission for approval by the Engineer-in-Charge of such Programs or the furnishing of such particulars shall not relieve the contractor of any or his duties or responsibilities under the contract. This is without prejudice to the right of the Engineer-in-Charge to take action against contractor as per terms and conditions of the agreement
- 23.0 The contractor shall be responsible for coordinating the activities of all works and essential progress of works as per milestone and laid down Programs.
- 24.0 The contractor shall be responsible for the watch and ward/guard of the site/ property/ material provided by him against pilferage and breakage during the period of execution and thereafter till the work is physically handed over to the department no extra payment shall be made on this account.

- 25.0 Samples of all building materials, fittings and other materials/ articles required for execution of

the work shall be got approved from the Engineer-in-Charge. Materials/ articles manufactured by the Firms of repute as indicated in tender documents and approved by the Engineer-in-Charge shall only be used. Materials/ articles classified, as “First Quality” by the manufacturer shall only be used. 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.

- 26.0 The contractor shall be required to produce samples of all materials i/c material like sand, stone aggregates & bricks etc. to be arranged and procured by him sufficiently in advance to obtain approval of the Engineer-in-Charge. Subsequently the materials to be used in the actual execution of the work shall be strictly of the same quality of the samples approved. In case of variation in the quality, such materials shall be liable to rejection. The rejected material shall be immediately removed from the site of work by the contractor at his own cost. If the contractor fails to remove the rejected material from the site within 3 days of their rejection by the Engineer-in-Charge or his authorized representative i.e., AE/ JE the same shall be got removed at the risk and cost of the contractor. No claim financially or otherwise shall be entertained on account of any rejection whatsoever.
- 27.0 The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material or work beyond set out tolerance limits shall be summarily rejected by the Engineer-in-Charge.
- 28.0 Even ISI marked materials 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/ material. Whenever ISI marked, materials are brought to the site of work; the contractor shall, if required by the Engineer-in-Charge, furnish manufacturer's test certificate to establish that the material procured by the contractor for incorporation in the work satisfy the provisions of IS Codes relevant to the material and/or the work done.
- 29.0 The contractor shall make his own arrangement of water including boring of tube-wells required for execution of work and nothing extra shall be paid for the same. The water used shall conform to the requirements as laid down in IS: 456-2000. The contractor shall obtain necessary permission from Central Ground Water Board of Govt. of India before actually starting the boring work for a tube well. Nothing shall be paid extra on this account.
- 30.0 The contractor should maintain the registers for cement, paint, water proofing compound and other materials as required by the Engineer-in-Charge and these should be signed by the contractor or his authorized agent and the representative of the Engineer-in-Charge
- 31.0 The contractor shall make his own arrangements for temporary electric connection, if required and make necessary payment including electric charges for its use direct to the authority concerned. The department will not at all be responsible for making arrangements in these regards. The department will provide all possible assistance by way of reasonable recommendation for obtaining electric connection to the concerned authorities but bears no responsibility for the same. In case local body fails to sanction/provide the electric connection or delays it, the contractor shall make his own arrangement by providing diesel generators of adequate capacity at his own cost.
- 32.0 The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to

the owners, tenants or occupants of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of smoke, noise, streams and water-ways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused thereon by the contractor.

All waste or superfluous materials shall be carried away by the contractor without any reservation entirely to the satisfaction of the Engineer-in-Charge.

- 33.0 The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark, spot levels, construction of all safety and protection devices, barriers, preparatory works, working during monsoon, working at all depths, heights and locations etc. unless specified in the schedule of quantities
- 34.0 No inflammable materials including P.O.L. shall generally be allowed to be stored at site. However, reasonable quantity may be permitted for storage subject to the compliance of all rules/ instructions issued by the competent authorities and as per the direction of Engineer-in-Charge.

35.0 Movement of labour and traffic at site

In the event of any restrictions being imposed by the Security agency, CPWD, Traffic Police or any other authority having jurisdiction in the area on the working or movement of labour /material, the contractor shall strictly follow such restrictions/instructions and nothing extra shall be payable to the contractor on this account. The loss of time on this account, if any, shall have to be made up by generating additional resources etc. General Security restrictions are given as under:

- a) The movement of trucks and vehicles shall be regulated in accordance with rules and regulations as approved by competent authority.
 - b) The contractor shall inform, in advance, the truck registration numbers, ownerships of the trucks, names and addresses of the drivers for necessary action by the Security agency.
 - c) Labour huts /stay of workmen will not be allowed at site.
 - d) Names and addresses of labour/ staff etc. working at site shall be furnished for security verification.
 - e) The labour / staff should not be changed too frequently once the verification of the character and antecedents is done.
 - f) After verification of antecedents of workers, identification badges will be issued to them by the contractor under the seal of the Engineer-in-Charge or his representative. The cost of badges would be borne by the contractor.
 - g) As and when there will be security requirements, certain additional restriction (s) can be imposed as per the requirement of the situation.
 - h) No claim whatsoever will be entertained by the department on account of any restriction (s) imposed by the security agencies in execution of work including temporary suspension of work due to VVIP movements.
 - i) The contractor shall be responsible for behavior and conduct of his labour. No labour with doubtful integrity or having a bad record shall be engaged by the contractor.
- 36.0 The contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipments to execute the work. Many items like stone masonry & stone cladding work, stone flooring & other specialized flooring work, wood work, aluminium work, separation joints will specifically require engagement of skilled workers having experience particularly in

execution of such items.

- 37.0 No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the government property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost.

38.0 Environmental Management Action Plan

The contractor is required to execute the work with the following instructions of environmental management action plan.

38.1 Construction vehicles, equipment and machinery

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

38.2 Construction waste disposal

- (i) The pre-identified dump locations will be a part of solid waste management plan to be prepared by the contractor in consultation with Engineer-in-Charge.
- (ii) Contractor will get approved the location of disposal site prior to commencement of the excavation on any section of the project location.
- (iii) Contractor will ensure that any spoils of material/construction waste will not be disposed off in any municipality solid waste collection bins.

38.3 Use of Recycled Material from C&D waste

Recycled material made from C & D waste shall be allowed to be used with prior intimation to Engineer-in-charge for non-structural works, such as:

- i) Cement Concrete Blocks in filler / partition walls.
- ii) Pavers, footpath tiles / slabs
- iii) Kerb Stones
- iv) Manhole covers, precast service ducts
- v) Graded Aggregate of size 10mm – 5 mm and up to 150 mm for Sub base of internal roads & paths. The recycled material produced from C & D waste should be conforming to prevailing IS codes and specifications according to their uses.

38.4 Procurement of construction material

- (i) All vehicles delivering construction materials to the site shall be covered to avoid spillage of materials and maintain cleanliness of the roads.
- (ii) Wheel Tyres of all vehicles used by of the contractor, or any of his sub-contractor or materials suppliers shall be cleaned and washed clear of all dust/mud before leaving the project premises. This shall be done by routing the vehicles through tyre washing tracks. Contractor shall arrange for regular water sprinkling at least twice a day (i.e., morning and evening) for dust suppression of the construction sites and unpaved roads used by his construction vehicles.

38.5 Pollution

38.5.1 Water Pollution

- a The Contractor will take all precautionary measures to prevent the waste water during construction to accumulate anywhere.
- b The waste water arising from the project is to be disposed off in the manner that is acceptable to the Engineer-in-charge and conforming to Local Pollution Control committee norms.

38.5.2 Air and Noise Pollution

- a Contractor will use dust screens and sprinkle water around the construction site to arrest spreading of dust in the air and surrounding areas.
- b Contractor will ensure that all vehicles, equipment and machinery used for construction are regularly maintained and confirm that emission levels comply with environmental emission standards/norms.
- c For controlling the noise from Vehicles, Plants and Equipments, the Contractor will conform the following:
 - (i) All vehicles and equipment used in construction will be fitted with exhaust silencers.
 - (ii) Servicing of all construction vehicles and machinery will be done regularly and during routine servicing operations, the effectiveness of exhaust silencers will be checked and if found defective will be replaced.
 - (iii) Noise emission from compactors (rollers) front loaders, concrete mixers, cranes (movable), vibrators and saws should be less than 75 db (A).
 - (iv) As per the Standards/Guidelines for control of Noise Pollution from Stationary Diesel Generator (DG) Sets, noise emission in db (A) from DG set (15 – 500 KVA) should be less than $94 + 10 \log_{10}(\text{KVA})$. The standards also suggest construction of acoustic enclosure around the DG set and provision of proper exhaust muffler with insertion loss of minimum 25db(A) as mandatory.

38.6 Condition of National Green Tribunal

- i) The contractor shall not store/dump construction material or debris on metalled road.
- ii) The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
- iii) The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and / or other similar material to ensure that no construction material dust fly outside the plot area. It will be the builder /contractor responsibility to ensure that their activity does not cause any air pollution

during course of construction and /or storage of material or construction activity. This condition shall be strictly adhered to every builder, contractor, person or authority. In the event of default they shall be liable to be prosecuted under the law in force, as well as for causing environmental pollution and will be liable to be pay compensation which would be determined by Tribunal in accordance with law.

- iv) The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precaution that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.
- v) The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
- vi) The contractor shall provide all medical help, investigation and treatment to the workers involved in the constructions of building and carry of construction material and debris relating to dust emission.
- vii) The contractor shall ensure that C&D waste is transported to the C & D Waste site only and due record shall be maintained by the contractor.
- viii) The contractor shall compulsorily use of wet jet in grinding and stone cutting.
- ix) The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
- x) The contractor shall carry out on Road inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
- xi) The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
- xii) The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of vehicle to 20kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
- xiii) The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
- xiv) The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.
- xv) As per EIA Notification of 2006, sufficient green belt around the building shall be provided. Such green belts shall be in existence prior to applying for occupancy certificate and handing it over.
- xvi) Any violation of orders of MOEF including guidelines of State Government, SPCB or any

officer of any department shall lead to stoppage of work for which Contractor shall be responsible and no hindrance shall be accounted in this regard.

- xvii) Even if constructions have been started after seeking Environmental Clearance under the EIA notification 2006 and after taking other travel but is being carried out without taking the preventive and protective environmental steps as stated in this order and MoEF guidelines, 2010, the State Government, SPCB and any officer of any department as aforesaid shall be entitled to direct stoppage of work.

“Material storages/warehouses- Care should be taken to keep all material storages adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust/particulate emissions. Fabrics and plastics for covering piles of soils and debris is an effective means to reduce fugitive dust”.

38.7 Prevention of Nuisance and Pollution

- (i) The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution. He shall make good at his own cost and to the satisfaction of the Engineer-in-charge, any damage to roads, paths, drainage works or public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the Contractor. All waste or superfluous materials shall be cleaned away by the Contractor without any reservations entirely to the satisfaction of the Engineer-in-charge at no extra cost.
- (ii) The site shall be kept clean of all debris, rubbish and dirt & surplus/waste material all the time. It also includes maintenance, cleaning & de-silting the pipe lines laid by the contractor for all internal services etc. executed by the contractor to the entire satisfaction of the Engineer-in-charge during the maintenance periods. Cleaning and de-silting will also be done by the contractor before handing over the completed structures to CPWD. All machines, equipment and labour for this purpose will be arranged by Contractor at no extra cost to CPWD.

39.0 Safety, Health and Environment: The contractor shall follow the provisions contained in Safety, Health and Environment handbook 2019 available at CPWD website.

39.1 Protection of Environment:

The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or other resulting from pollution, noise or other causes arising as a consequence of his methods of operation. The Contractor shall be required to follow all the rules/norms of National Green Tribunal applicable to this work.

During continuance of the contract, the Contractor and his sub-agencies shall at all times, abide by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, by-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. However, Salient features of some of the major laws that are applicable are given below:

Water Pollution is to be prevented as per **The Water (prevention and Control of Pollution)**

Act, 1974 which provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. ‘Pollution’ means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

Air Pollution is to be prevented as per **The Air (prevention and Control of Pollution) Act, 1981** which provides for prevention, control and abatement of air pollution. ‘Air Pollution’ means the presence in the atmosphere of any ‘air pollutant’, which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

Environment is to be protected as per **The Environment (Protection) Act, 1986** which provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. ‘Environment’ includes water, air and land and the inter-relationship which exists among and between water, air and land, and human being, other living creatures, plants, micro-organism and property.

The public Liability Insurance Act, 1991: This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

40.0 Personnel Safety Measures for Labour

This shall be ensured as per the CPWD Safety Code given in “General conditions of contract for CPWD works – 2023 for Maintenance works”.

40.1 Risks from Electrical Equipment

- i) The contractor will comply the relevant industrial electrical safety legislations.
- ii) The Contractor will take adequate precautions to prevent danger from electrical equipment i.e. no material will be so stacked or placed as to cause danger or inconvenience to any person or the public.
- iii) All necessary fencing and lights will be provided to protect the public.
- iv) All electric machines to be used in the construction will conform to the relevant Indian Standards (IS) codes, will be free from patent defect, will be kept in good working order, will be regularly inspected and properly maintained as per IS provision and to the satisfaction of the Engineer-in-charge.
- v) The contractor will arrange for a first aid kit including an adequate supply of sterilized dressing materials and appliances to meet emergencies. He will also arrange suitable transport to take injured or sick person(s) to the nearest hospital.
- vi) The contractor will provide, erect and maintain informatory/safety signs, hoardings written in English and Hindi wherever required or as suggested by the Engineer-in-charge.

40.2 Plantation/preservation/conservation measures

- i) The contractor will take reasonable precaution to prevent his workmen and employees from removing and damaging any flora (plant/vegetation) from the project area.
- ii) All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on any project location during excavation/construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant legislation. The contractor will take reasonable precaution to prevent his workmen or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal inform the Engineer-in-charge of such discovery and carry out the official instructions of Engineer-in-charge for dealing with the same, till then all work shall be stopped.

41.0 The contractor shall use double scaffolding in the work.

42.0 The contractor shall make at his own cost all necessary arrangements for maintaining water level, in the area where works are under execution low enough so as not to cause any harm to the works or problems in carrying out with the execution and the rates for all items of work shall be considered as inclusive of pumping out or bailing out water, if required, for which no extra payment shall be made. This will include water coming from any source, such as rains, accumulated water, floods, leakages from sewer and water mains, sub-soil water table being high or due to any other cause whatsoever. The contractor shall make necessary provision of pumping, dredging, bailing out water coming from all above sources and excavation and other works shall be kept free of water by providing suitable system approved by Engineer-in-charge.

43.0 Cement: -

- i) Every delivery of cement shall be accompanied by producer's certificate conforming that the supplied cement confirms to relevant specifications. These certificates shall be endorsed to the engineer in charge for his record.
- ii) The cement shall be brought at site in bulk supply as decided by the Engineer-in-charge.
- iii) Cement bags shall be stored in two separate godowns, one for tested cement and the other for fresh cement (under testing) constructed by the contractor at his own cost. The actual size of godown shall be as per site requirements and as per the direction of the Engineer in charge and nothing extra shall be paid for the same. The decision of the Engineer-in-charge regarding the capacity required/needed will be final. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with Engineer-in-charge or his authorized representative 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 the 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 in token of its correctness.
- iv) Samples of cement arranged by the contractor shall be taken by the Engineer-in charge and got tested in accordance with provisions of relevant BIS codes. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within 7 days of written order from the Engineer-in-charge to do so.

The contractor shall supply free of charge the cement required for testing. **The cost of tests shall be borne by the contractor.**

- v) The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract.
- vi) The theoretical, consumption of cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by conditions laid therein. No payment for excess consumption of cement will be allowed. However, for lesser consumption beyond permissible theoretical variation recovery shall be made in accordance with conditions of contract given in **Schedule A to F of CPWD-7** without prejudice to action for acceptance of work/item at reduced rate or rejection as the case may be.
- vii) For non-schedule items, the decision of the Chief Engineer regarding theoretical quantity of cement, which should have been actually used, shall be final and binding on the contractor.
- viii) Cement brought to site and remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.

44.0 Reinforcement

- i) The reinforcement shall conform to relevant BIS Specifications and it should be laid as per CPWD Specifications 2019 Vol I & II.
- ii) 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.
- iii) 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.
- iv) To ensure proper cover, only factory-made round type cover blocks will be used to avoid displacement of bars in any direction.
- v) The steel reinforcement shall be brought at site as per direction of the Engineer-in-charge.
- vi) The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- vii) The contractor shall supply free of cost the required steel bars for testing. The cost of tests shall be borne by the contractor.
- viii) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by conditions laid therein.
- ix) Steel brought to site and remaining unused shall not be removed from site without the written permission of Engineer-in-Charge.
- x) Reinforcement including authorized spacer bars and overlaps 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.
- xi) Record 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.

- xii) The standard sectional weights referred to as in CPWD specifications for works 2019 Vol. 1 will be considered for conversion of length of various sizes of MS bars, Tor steel bars and TMT bars into standard weight.
- xiii) If the derived weight as in para (44.11) above is less than the standard weight as in para (44.12) above, than the Derived Actual Weight shall be taken for payment.
- xiv) If the derived actual weight in para (44.11) found more than the standard weight, than standard weight as worked out in para (44.12) above shall be taken for payment nothing shall be paid extra for the difference in Derived Actual Weight and standard weight.
- xv) Mixing different types of grades of bars shall not be allowed.
- xvi) The reinforcing steel brought to site of work shall be stored on brick timber platform of 30 to 40 cm height, nothing extra shall be paid on this account.

45.0 Water:

- i) The contractor shall make his own arrangement for providing water for construction and drinking purpose. Water charges shall not be recovered on account of it. Contractor shall get the water tested from any approved laboratory by the Engineer-in-charge at regular interval as per the CPWD specifications 2019 vol.-I & II). All expenses towards collection of samples, packing transportation and testing charges, etc. shall be borne by the contractor.

46.0 Form Work:

- i) The work shall be done in General as per CPWD Specifications 2019 Vol -I & II.
- ii) Only M.S. centering / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor to be approved by the Engineer-in-Charge.
 - a) Double steel scaffolding having two sets of vertical supports shall be provided for external wall finish, cladding etc. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding platform shall be fixed.
 - b) Nothing extra shall be paid for the centering and shuttering, circular in shape whenever the formwork is having a mean radius exceeding 6m in plan.
- iii) In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the top level of RCC surface shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the contractor.
- iv) 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.
- v) Steel shuttering as approved by the Engineer-in-Charge shall be used by the contractor.

Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required to complete the shuttering panels.

- vi) Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.
- vii) 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.
- viii) For the execution of centering and shuttering, the contractor shall use propriety “Reebole” chemical mould release agent of FOSROC or equivalent as shuttering oil as approved by Engineer-in-charge and nothing extra shall be paid on this account.

ADDITIONAL CONDITIONS

1. In case there is any discrepancy between English Version and corresponding Hindi version, if provided, then the provisions in English Version will prevail.
2. Unless otherwise specified, CPWD Specifications 2019 Volume I & II with up-to-date corrections slips shall be followed in general. Any additional item of work, if taken up subsequently, shall also conform to the relevant CPWD specifications mentioned above, in case CPWD specification for any of the items is not available then the BIS specification, manufacture's specifications and sound Engineering practice shall be followed and take preference in that order. A reference made to any Indian Standard Specifications in these documents, shall imply to the latest version of that standard, including such revisions/amendments as issued by the Bureau of Indian Standards up to date of release of tenders through e-procurement. **The Contractor shall keep at his own cost all such publications of relevant Indian Standard, applicable to the work at site.**
3. The order of preference in case of any discrepancy as indicated in condition no. 8.1 under "General Conditions of Contract 2020" at page No. 11 may be read as the following:
 - a) Nomenclature of item as per schedule of quantities.
 - b) Particular specifications and Special conditions, if any.
 - c) Additional conditions.
 - d) Contract Clauses of Standard CPWD contract form.
 - e) Drawings
 - f) CPWD Specifications as applicable.
 - g) Indian standard specifications of BIS
 - h) Manufacture's specifications
 - i) Sound Engineering Practice as per direction of Engineer-in-charge.
4. The nomenclature of the item given in the schedule of quantities gives in general the work content but is not exhaustive i.e., does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and / or described in the specifications, provided that the same can be reasonably inferred there from. There may be several incidental works, which are not mentioned in the nomenclature of each item but will be necessary to complete the item in all respect. All these incidental works / costs which are not mentioned in item nomenclature but are necessary to complete the item shall be deemed to have been included in the rates quoted by the contractor for various items in the schedule of quantities. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation / change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the items of work and are necessary to complete such items in all respects) on account of the directions of Engineer-in-Charge. Nothing extra shall be payable on this account.
5. The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, material, tools and plants and other inputs involved in the execution of the item and **nothing extra shall be payable on this account.**

6. The contractor(s) shall quote all-inclusive rates against the items in the schedule of quantities and **nothing extra shall be payable for any of the conditions and specifications** mentioned in the bid documents unless specifically mentioned otherwise.
7. No accommodation is available at the site of work. The labour huts shall not be erected on the plot and the Contractor shall make his own arrangements to provide such accommodation as per the rules of the local bodies. He shall make his own arrangements for stores, field office etc. Before tendering, he shall visit the site and assess the manner in which he is able to arrange the above facilities. The Engineer-in- Charge shall in no way be responsible for any delay on this account and no claim, whatsoever, on this account shall be entertained. Nothing extra shall be payable on this account.
8. 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).
9. The Contractors will associate himself with specialized electrical contractor.
10. The contractor shall take all precautions to avoid accidents by exhibiting caution boards, red flags, red lights and providing necessary barriers and all other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.
11. The Contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the Department from any and all damages and claims that may arise on any account. The Contractor shall indemnify the Department against all claims in respect of patent rights, royalties, design, trademarks of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the Department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.
12. Any of the item (whole or part) supplied under this contract may be subjected to test on site or sent to laboratory at the discretion of the engineer-in-charge. If the test result is not as per the standard requirements, the entire lot will be rejected and the contractor will remove the whole lot.
13. The contractor will bear the cost of sample, transportation to the lab, testing fees and any other incidental charges.
14. Minor variations (up to $\pm 2\%$) in the dimensions of items manufactured by approved brands, may be accepted. However, the decision of the Engineer-in-Charge, in this regard will be final and binding on the contractor.
15. Wherever any reference to any Indian Standard Specifications/ International standard occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued there-to or revisions thereof, if any, up to the date of receipt of bids.
16. Samples for particular items of work shall be prepared, where so specifically desired by Engineer-in- charge, for prior approval of the Engineer-in-charge, before taking up the same on mass scale and nothing shall be payable on this account.
17. The contractor shall take instructions from the Engineer-in-charge for stacking of materials at

site. No excavated earth or building materials shall be stacked on areas where the buildings, roads, services or compound walls or any other structure are to be constructed.

18. Unless otherwise specifically provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing extra quoted rates in agreement shall be payable to him on this account.
19. If ISI marked products are available, the contractor shall use only ISI marked products. In other cases, the materials shall conform to CPWD specifications. In case a materials/product is neither covered by ISI nor by CPWD specification, the work shall be carried out as per sound engineering practice, in such case, the decisions of the Engineer-in-charge shall be final & binding. In such cases Engineer-in-charge shall satisfy himself about the quality of such materials and give his approval in writing. Only articles classified as first quality by the manufacturers shall be used, unless otherwise specified. All materials not bearing ISI mark shall be tested as per relevant ISI specifications. The Engineer-in-charge may relax the condition regarding testing if the quantity of the materials required for the work is small. In all cases of use of ISI marked materials, proper proof of procurement of materials from authentic manufacturers shall be provided by the contractor to the entire satisfaction of Engineer-in-charge.
20. Any cement slurry, required to be added over base surface for bond or for continuation of concreting, its cost shall be deemed to have been included in the respective items, unless specified otherwise and nothing extra shall be payable nor extra cement shall be considered in the cement consumption on this account.
21. Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth, if required, shall have to be done by the contractor at his own cost.
22. No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.
23. **(a)** The building work will be carried out in the manner complying in all respect with the requirements of relevant bylaws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra will be paid on this account.

(b) The work of water supply, internal sanitary installations and the drainage work etc. may require to be carried out as per local Municipal Corporation or such local body-Bylaws and the contractor in such cases shall produce necessary completion certificate from such authorities after completion of the work.
24. The contractor shall give a performance test of the entire installation(s), as per standing specifications, before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
25. Any damage to work resulting from weathering conditions, defacing or from any other cause such as negligent act on the part of contractor, until the work is taken over by the Department after completion of work, shall be made good by the contractor at his own cost.

26. **TESTING OF MATERIALS**

- (a) **Samples of various materials required for testing shall be provided free of cost by the contractor. Testing charges, if any, shall be borne by the contractor. All other expenditures required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the contractor himself.**
 - (b) The contractor shall produce all the materials in advance so that there is sufficient time for testing and approval of the materials and clearance before use in work. The Engineer in charge shall be at liberty to test representative sample(s) of each item of schedule of quantity in any approved laboratory as decided by him. The sample of testing shall be provided by the contractor free of cost. Any expenditure required to be incurred for taking sample, Conveyance and packing shall be borne by the contractor. In case of any sample of particular lot fails in testing the contractor shall be bound to replace the entire lot with fresh material of prescribed specifications. The rejected lot shall be returned to the contractor only after fresh lot is supplied.
 - (c) With a view to avoid controversy about quality of cement concrete as revealed in the test results of 7 days cubes falling short of the prescribed standards by over 10% to 20% and pending testing of balance 3 cubes for 28 days as final confirmatory acceptance tests, crushed samples of cement concrete from the failed 7 days cubes should be preserved in a sealed bag.
 - (d) In case of concrete and reinforced concrete work, the contractor shall be required to make arrangement for carrying out crushing strength tests at his own cost. He shall render all assistance for the preparation of cubes, safe custody of the same, proper curing and carriage upto the laboratory where the test is to be performed. The cube test can be performed at any laboratory approved by the Engineer-in-charge.
 - (e) **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 to and from carriage charges in connection therewith. The cost of tests shall be borne by the contractor.**
27. No labour huts shall be allowed inside the campus of above said work. The contractor shall arrange for the stay of labour outside the campus including transport and nothing extra shall be payable on the account.
28. The Engineer employed by the contractor must attend the office of AE/JE in charge daily and note any instructions given on site order book.
29. The contractor shall prepare one sample of all items which should be got approved from the Engineer in charge. Only after acceptance of sample work, contractor will be allowed to commence the work and sample is to be preserved by contractor till the whole work is completed. The quality of work should confirm to the approved samples.
30. No T & P shall be supplied by the department.
31. Any damage done to the existing structure shall be made good by the contractor at his own risk and cost.

32. The contractor shall be responsible for behavior and conduct of his worker. No worker with doubtful integrity or having a bad record shall be engaged by the contractor.
33. The labour welfare fund/cess @ 1% of gross work done shall be deducted from the bills of the contractor.
34. The contractors are advised to get acquainted with the proposed work and its site and also study the Drawings, specifications and special conditions carefully before tendering. No claim of any sort shall be entertained on account of any site conditions and ignorance of specifications and special conditions.
35. The contractor shall make his own arrangements for electricity and water required for the execution of the work and nothing extra shall be paid for the same. However, for electrical connection, Engineer-in-Charge shall recommend the application to concerned authority for Electrical connection if required. Necessary payment shall be made by the contractor directly to the department concerned. In case the concerned authority fails to sanction the electric connection or delays the sanction of electric connection, the contractor shall make his own arrangements by providing diesel generators of adequate capacity at his own cost.
36. For water supply, contractor shall make his own arrangement including boring of tube well, if necessary, and nothing extra shall be paid by the Department for arrangement of water or on its treatment as per requirements laid down in IS: 456 / 2000.
37. There may be some restrictions on free movement of labourers at site and restriction of working hours and the agency shall consider this fact while quoting the rates and executing the work. Photo passes if any required for worker shall be responsibility of the contractor.
38. The proposed work is a prestigious project and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work.
39. This is an occupied campus. The work is to be carried out in such a manner so that the working staff are not inconvenienced.

The Work is to be done in the Campus of **NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027**. The security agencies may impose restrictions on the working hours, movement of vehicles for transportation of materials. The contractor shall be bound to follow all such restrictions and adjust the programme for execution accordingly. He should take into consideration all factors and contingencies while quoting rates. No claim what so ever shall be entertained by the department on this account.

40. Contractor shall submit initially and at every change list of workmen to be employed with their proof of identities at least 2 days before their entry for issue of gate passes.
41. Unserviceable material obtained from dismantling not required at site will not be kept at the site and disposed of promptly by the contractor at the location/directed by the Engineer-in-charge or dumping ground inside the campus at his own cost.

42. Limited space is available for stocking of serviceable and unserviceable demolished material and construction material and machinery; contractor is to plan accordingly. No payment for shifting, re-shifting and handling will be admissible.
43. No payment for back filling of trenches and foundation created due to demolition work will be admissible.
44. The contractor has to obtain electric connection from power supply company at his level.
45. Any damage done by the contractor to any existing work during the course of execution of the work shall be made good by him at his own risk and cost.
46. No labour except one chowkidar shall be allowed to stay at site beyond working hours.
47. The site will be maintained neat and clean to the satisfaction of the Engineer-in-charge.

SPECIAL CONDITIONS FOR PROCUREMENT OF CEMENT

1. The contractor shall procure **43 grade** ordinary Portland cement conforming to IS 8112 Part-I/ or Portland Pozzolana Cement conforming to IS 1489 (Part-I) as required in work, from reputed manufacturers of cement having a production capacity not less than one million tonnes or more per annum, such as **ACC, AMBUJA, ULTRATECH, JK CEMENT, BIRLA, SHREE CEMENT, JAYPEE CEMENT, VIKRAM, WONDER CEMENT** or from any other reputed cement Manufacturer having a production capacity not less than one million tones per annum as approved by ADG for that sub region.

The supply of cement shall be taken in 50 kg. bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractors shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case of test results indicate that the cement arranged by the contractor does not conform to the relevant BIS Codes, the same shall stand rejected, and it 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.

2. The cement shall be brought at site in bulk supply of approximately 25 tonnes or as decided by the Engineer-in-charge.
The cement godown of the capacity to store a minimum of 500 bags of cement shall be constructed by the contractor at site of work for which no extra payment shall be made.
3. For each grade, cement bags shall be stored in two separate godowns, one for tested cement and the other for fresh cement (under testing) constructed by the contractor at his own cost. The actual size of godown shall be as per site requirements and as per the direction of the Engineer in charge and nothing extra shall be paid for the same. The decision of the Engineer-in-charge regarding the capacity required/needed will be final. However, the capacity of each godown shall not be less than 25 tonnes or as decided by Engineer-in-charge.
4. Double lock provision shall be made to the door of each cement godown. The keys of one lock shall remain with CPWD Engineer-in-charge or his authorized representative and the keys of the other lock shall remain with the contractor. The contractors shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.
5. The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laborites. **The cost of tests etc. shall be borne by the contractor.**
6. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by conditions laid therein. In case of cement consumption is less than theoretical consumption including permissible variation; recovery at the rate prescribed shall be made. In case of excess consumption, no adjustment needs to make.

7. Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of Engineer-in-Charge.
8. The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do so within three days of receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the contractor.

SPECIAL CONDITION FOR PROCUREMENT OF STEEL REINFORCEMENT BARS

The contractor shall procure Corrosion Resistant TMT bars of Fe 500D grade corrosion resistant steel (the grade to be procured is to be specified from primary steel producers such as SAIL, Tata Steel Ltd, RINL, Jindal Steel & power Ltd., and JSW Steel Ltd. or any other producer as approved by CPWD who are using iron ore as the basic raw material/input and having crude steel capacity of 2.0 million tones per annum and above.

1. The TMT bars procured from primary producers shall conform to manufacture's specifications.
2. TMT bars procured from primary producers; the specifications shall meet the provisions of IS 1786: 2008 pertaining to Fe 500 D corrosion resistant steel.
3. The contractor shall have to obtain vouchers and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.
4. Samples shall also be taken and got tested by the Engineer-in-charge as per the provisions in this regard in the relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined under para 1.1 and 1.2 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 of written orders from the Engineer-in-charge to do so.
5. The steel reinforcement shall be brought to the site in bulk supply of 25 tones or more or as directed by the Engineer-in-charge.
6. The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent distortion & corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
7. For checking nominal mass. Tensile strength, bend test, re-bend test etc. specimens of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

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

8. The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the contractor.
9. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by the conditions laid therein. In case the consumption is less than theoretical

consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment needs to be made.

10. The steel brought to the site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
11. Steel bars brought by the contractor for use in the work shall be got checked from the Engineer-in-charge or his authorized representative of the work on receipt of the same at site before use.
12. If the quantity of steel actually used in the work is found to be more than the theoretical quantity of steel including authorized variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work the quantity of steel used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in clause 38). The cost of quantity of steel so less used shall be recovered from the contractor at rate as specified in schedule 'F'. Decision of the Engineer-in-charge in regard to theoretical quantity of steel which should have been actually used and recovery of the rate specified shall be final and binding on the contractor.
13. In case the contractor brings surplus quantity of steel the same after completion of the work will be removed from the site by the contractor at his own cost after approval of the Engineer-in-charge.
14. Reinforcement including authorized spacer bars and lappings shall be measured in length of different diameters, as actually (not more than as specified in the drawing) used in the work, nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.
15. The standard sectional weights referred to as in CPWD specifications for works 2019 Vol. I will be considered for conversion of length of various sizes of MS bars, Tor steel bars and TMT bars into standard weight.
16. Records of actual sectional weight shall also be kept dia-wise & lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer-in-charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the weighted average sectional weight shall be termed as derived actual weight.
17. If the derived weight as in para 16 above is lesser than the standard weight as in para 15 above, the derived actual weight shall be taken for payment.

If the derived actual weight is found more than the standard weight than the standard weight as worked out in para 15 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.

18. Mixing of different type of steel/different grades of steel shall not be allowed.

SPECIAL CONDITION FOR RCC WORK

1. R.C.C. WORK (DESIGN MIX CONCRETE):-

- 1.1** The RCC work shall be done with Design Mix Concrete. Wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. The Design Mix Concrete will be designated based on the principles given in IS:456, 10262 & SP 23. The condition and specifications stated herein shall have precedence over all conditions and specifications stated in relevant I.S codes/CPWD specifications. The concrete mix shall be designed for specified target mean compressive strength in order to ensure that the work test results do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. The mix shall be designed with quantities of admixture / plasticizer proposed to achieve required workability & strength. The specifications mentioned here in below shall be followed for Design Mix Concrete.
- 1.2** The sources of coarse aggregate, fine aggregate & water to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specification & their availability before getting the same approved by the Engineer-In-Charge.
- 1.3** Coarse Aggregate:- As per CPWD Specifications - 2019 - Vol. I to Vol. II with upto date correction slips.
- 1.4** Fine Aggregate:- As per CPWD Specifications - 2019 - Vol. I to Vol. II with upto date correction slips.
- 1.5** **Water:-** It shall conform to requirements laid down in IS:456-2000 / CPWD Specifications - 2019 - Vol. I to Vol. II with upto date correction slips.
- 1.6** **Cement:-** OPC of grade 43 shall be used for design mix concrete and shall conform to IS-8112. However, if higher grade of cement is used by the contractor nothing extra shall be paid on this account.
- 1.7** **Admixtures / Plasticizers:-**
The admixture shall conform to IS : 9103, wherein required, the admixture of approved quality and approved make only shall be used to attain the required workability. Nothing extra shall be paid for use of admixtures.
- 1.8** **Grade of Concrete:-** The compressive strength of various grades of concrete shall be given as below:-

Grade designation	Compressive strength of 15 cm cubes	Specified Characteristic compressive strength at 28 days (N/mm²)	Maximum Water cement Ratio
M-20	As Per Design.	20	0.50
M-25	As Per Design.	25	0.50
M-30	As Per Design.	30	0.45
M-35	As Per Design.	35	0.45

Water cement ratio and slump shall be as per IS : 456-2000

NOTE:-

- i) In the designation of a Concrete mix letter M refers to the mix and the number of the specified characteristic compressive strength of 15 cm - Cube at 28 days expressed in N/mm^2 .
- ii) It is specifically highlighted that in addition to the above requirements, the maximum cement content for any grade shall be limited to 450 kg. / Cubic meter.
- iii) The maximum cement content for design mix concrete shall be maintained as per the quantity mentioned above. In case where the quantity of cement required as per Design Mix is lower than the quantity specified in the respective item in the “schedule of quantity”, necessary deduction for less quantity of cement used shall be made from the contractor.

1.9 The contractor shall engage one of the following approved laboratories/ test houses at his own expenses for designing the concrete mix in accordance with relevant IS Codes and to conduct laboratory test to ensure the target strength and workability criteria for a given grade of concrete.

- i) I.I.T, Delhi
- ii) I.I.T Roorkee
- iii) CRRI
- iv) Delhi Technical University Delhi.
- v) Other Govt. labs & NABL Lab as approved by competent authority.

The various ingredients for mix design / laboratory tests shall be sent to the lab / test houses through the Engineer-in-charge and the samples of such aggregates sent shall be preserved at site by the department.

1.10 The contractor shall submit the report on design mix from any of above approved laboratories for approval of Engineer-in-charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. In case of white portland cement and the likely use of admixtures in concrete with ordinary portland/white portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and / or admixtures also, for which nothing extra shall be payable.

1.11 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mixed design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-charge.

1.12 Trial Batches

1.12.1 The designed mix proportion shall be checked for target mean compressive strength by means of trial batches.

1.12.2 The quantities of materials for each trial mix shall be sufficient for at least six specimens (cubes) and the concrete required for carrying out workability tests.

- 1.12.3 The workability of trial mix No. 1 shall be measured and mix shall be carefully observed for freedom from segregation, bleeding and its finishing characteristics. The water content, if required, shall be adjusted corresponding to the required changes in the workability.
- 1.12.4 With the modified water content, the mix proportions shall be recalculated by keeping with water cement ratio unchanged. The mix proportions, as modified, shall form the Trial Mix No. 2 and tested for the specified strength and workability.
- 1.12.5 In addition, trial mix No. 3 and 4 shall be designed by keeping water contents same as that determined for trial mix 2 but varying the water cement ratio ± 10 percent of the specified value and tested for their design characteristics.
- 1.13 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor including redesigning of the concrete mix wherever required and directed by Engineer-in-Charge.

1.14 APPROVAL OF DESIGN MIX: -

The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65s$ Where F_{ck} = Characteristic compressive strength at 28 days.

S = Standard deviation which depends on degree of quality control.

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

GRADE OF CONCRETE	STANDARD DEVIATION(S)
M-15	3.5
M-20	4.0
M-25	4.0
M-30	5.0
M-35	5.0

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

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

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

1.16 BATCHING & LAYING:-

- a) All concreting shall be done using automatic concrete batching plant with automatic admixture dispenser which shall be installed by the contractor at site, calibrated & tested. For the admixtures if used within the parameter as specified in the Tender Document nothing extra shall be payable. The batching plant shall conform to IS: 4925. It shall have the facilities of data print-outs, presetting the quantity to be weighed with automatic cut-off when the same is achieved. Location to install batching plant at site shall be obtained by the contractor from Engineer-In-Charge.
- b) In case of non-availability of location to install batch Mix plant at site, Ready Mix Concrete (RMC) may be used. The concrete to site shall be transported by transit mixtures. All the precautions shall be taken during the transportation and handling of concrete to achieve the desired strength, durability, etc. as envisaged in the mix design. Contractor has to get the approval from Engineer-In-Charge regarding source of ready-mix concrete. Nothing extra shall be paid for ready mix concrete instead of batched mixed concrete.
- c) All measuring equipment shall be maintained in a clean and serviceable condition and their accuracy shall be checked at least once a month.
- d) Only single sized good quality stone aggregate shall be brought to site of work from the approved source. The grading of the stone aggregate shall be controlled by blending the aggregate of different sizes in the required proportions at site of work.

The aggregate of different sizes shall be stock piled separately, preferably a day before use. The grading of different coarse and fine aggregates shall be checked as frequently as possible and as directed by the Engineer-in-Charge to ensure that the specified grading and quality of aggregate is maintained.

The moisture contents in the aggregate shall be determined as frequently as possible in keeping with the weather conditions and as per the provisions of IS :2386 (Part-III) 1963.

- e) The concrete shall be placed in position using tower crane or concrete pumps of adequate capacity. Use of mechanical hoists shall not be permitted for lifting of concrete to various levels. For pumping of concrete the design of concrete mix shall be done separately. Nothing extra for laying concrete using concrete pumps or for extra concrete mix design shall be paid.

1.17 All other operations in concreting work like mixing, slump, laying, placing of concrete, compaction, curing etc. not mentioned in these particular specifications for Design Mix of Concrete shall be as per CPWD specifications - 2019 - Vol. I to Vol. II with up-to-date correction slips.

1.18 WORK STRENGTH TEST: -TEST SPECIMEN: -

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

TEST RESULTS OF SAMPLES: -

The test results of the sample shall be the average of the strength of three specimen. The individual variation shall not be more than $\pm 15\%$ percent of the average. If variation is more, the test results

shall be treated as invalid. 90% of the total tests shall be done at the laboratory established at site by the contractor and remaining 10% in the laboratory of Central Designs Organization, CPWD or in any other laboratory as directed by the Engineer-in-Charge.

LOT SIZE: -

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

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

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

1.19 STANDARD OF ACCEPTANCE: -

- i) In case the test results of all the samples are above the characteristic compressive strength, the concrete shall be accepted.
- ii) In case the test result of one or more samples fails to meet the requirement (i) above, it shall be accepted if both the following conditions are met: -
 - a) Any individual test result is not less than $(F_{ck} - 4) \text{ N/mm}^2$.
 - b) The mean of test results from any group of four consecutive samples is more than $(F_{ck} + 4) \text{ N/mm}^2$.
- iii) Concrete of each grade shall be assessed separately.
- iv) Concrete is liable to be rejected, if it is porous or honeycombed, its placing has been interrupted without providing a proper construction joint, the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met.

1.20 The contractor has to arrange at site centering and shuttering for 1200 sqm. before start of work. Only M.S. centering / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor as approved by the Engineer-in-charge.

1.21 Nothing extra shall be paid for the centering and shuttering, circular in shape whenever the form work is having a mean radius exceeding 6m in plan.

1.22 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 accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.

1.22A As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 12 to 20mm as required lower than general floors shuttering should be adjusted accordingly. Nothing extra payable on this account.

1.23 Measurement - As per CPWD Specifications – 2019 Vol. I& II with up-to-date correction slips.

1.24 Tolerances - As per CPWD Specifications - 2019 Vol. I& II with up-to-date correction slips.

1.25 Rates: -

1.25.1 The rate includes the cost of materials/ plasticizers / admixtures, labour and T&P, including mixing, placing, transportation involved in all the operations described above except for the cost of centering, shuttering & reinforcement which will be paid for separately.

1.25.2 In case of actual average compressive strength being less than specified strength which shall be governed by para “Standard of Acceptance” as above the rate payable shall be worked out accordingly as per C.P.W.D. specifications - 2019 - Vol. I to Vol. II with up-to-date correction slips.

1.25.3 In case of rejection of concrete on account of unacceptable compressive strength, governed by para “Standard of Acceptance” as above, the work for which samples have failed shall be redone at the cost of contractor. However, the Engineer-in-charge may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure on part of structure, etc.) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The Contractor shall take remedial measures necessary to retain the structure as approved by the Engineer-in-charge without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance with para 3.24.2.

1.25.4 In respect of all projected slabs at all levels including cantilever, canopy, the payment for the RCC work shall be made under the item RCC slabs. The payment for shuttering at the edges shall be made under item of centering and shuttering for RCC slabs. Nothing extra shall be paid for the side shuttering at the edge of these projected balconies and projected varandah slabs.

1.26 SHUTTERING: -

Steel shuttering as approved by the engineer-in-charge shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required to complete the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.

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

The joint filler shall be resilient closed cell expanded polyethylene and non-tainting as manufactured by Supreme Industries Ltd.

Providing joint filler of required thickness in position to substrate using either double sided foam adhesive tape or neoprene synthetic rubber adhesive. When forming expansion joint with the Board in situ concrete, joint sealing slots can be readily formed in the following manner-

Before installing, simply cut off a strip of the required depth. Then install the filler flush with the finished surface.

Prior to sealing, the top strip can then be pulled easily from the joint to provide an uncontaminated sealing slot ready for preparation and sealing. Rates shall be inclusive of all including labour, material, T&P, scaffolding etc. complete. Nothing extra shall be payable on any account.

1.27 REINFORCEMENT: -

- a) The reinforcement shall be done as per CPWD Specifications - 2019 - Vol. I to Vol. II with up-to- date correction slips.
- b) 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 Specification - 2019 - Vol. I to Vol. II with up- to-date correction slips.
- c) To avoid displacement of bars in any direction and to ensure proper cover, only factory-made round type cover blocks shall be used by the contractor. Nothing extra shall be payable on this account.

R.C.C./C.C work (CONDITION FOR READY MIX CONCRETE)

- (1) The contractor shall procure Ready Mix Concrete (RMC) from the RMC producing plants. (As per approved list attached)
- (2) Engineer-in-Charge in aforesaid manner or provisions in CPWD Specification 2019, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.
- (3) For all purpose the contractor shall carry out fully, the responsibilities of the “placement contractor” and the “manufacturer of concrete”.
- (4) The Engineer-in-Charge reserves the right to inspect at any stage and reject the concrete if he is not satisfied about quality of product at the user’s end.
- (5) The Engineer-in-Charge reserves the right to excise control over the:
 - (a) Ingredients water and admixtures purchased, stored and to be used in the concrete including conducting of test for checking of materials, recording of test results and declaring the materials fit or unit for use in production of mix.
 - (b) Calibration checks of the RMC Plant.
 - (c) Weight and quantity check on the ingredients, water and admixtures added for batch mixing.
 - (d) Time of mixing of concrete.
- (e) Testing of fresh concrete, recording of result and declaring the mix fit or unfit for use. This will be including continues control on the workability during production and taking corrective action, if required.
- (f) For exercising such control, the Engineer-in-Charge shall periodically depute his authorized representative at the RMC plant. It shall be responsibility of the contractor to ensure that all necessary equipment, manpower & facilities are made available to Engineer-in-Charge and / or his authorized representative at RMC plant.
- (6) The contractor should therefore draw MOU/Agreement with RMC producer very carefully keeping view all terms and conditions / specifications forming part of this tender document
- (7) All required relevant records of RMC shall be made available to the Engineer-in-Charge or his authorized representative. Engineer-in-Charge shall, as required, specify guidelines and additional procedures for quality control and other parameters in respect of materials, production and transportation of concrete mix which shall be binding on the contractor and

the RMC plan. Only concrete as approved in design mix by Engineer-in-Charge shall be produced in RMC plant and transport to the site.

- (8) OPC (Conforming to IS: 8112) of brand / make / source as approved by Engineer-in-Charge shall only be used for production of concrete.

- (9) Quality control of Ready-Mixed Concrete.

It shall be the responsible of the contractor to ensure that RMC producer provides all necessary testing equipments and take all necessary measures to ensure quality control of ready mixed concrete. In general the required measures shall be :- Control of purchased materials quality.

RMC producer shall ensure that the materials purchased and used in the production of concrete conform to the stipulation of the relevant agreed standard and the requirements of the concrete mix design and quality control procedure. This shall be accomplished by visual checks, sampling and testing, certification from materials supplier and information / data from materials supplier. Necessary equipment for the testing of all material shall be provided and maintained in calibration condition at the plant by the RMC producer.

- (a) Control of material storage.

Adequate and effective storage arrangement shall be provided by RMC producer at RMC plant for reliable transfer and feed system, drainage of aggregates, prevention of freezing or excessive solar heating of aggregate, prevention of contamination etc.

- (b) Record of Mix design and mix design modification.

RMC producer shall ensure that record of mix design and modifications is readily available in his computer at RMC plant for inspection of Engineer-in-Charge or his authorized representative at any time. Any modifications in mix design shall be done only after the approval of Engineer-in-Charge.

- (c) Transfer and weighing equipments.

RMC producer shall ensure that a documented calibration procedure is in place. Proper calibration records shall be made available indicating date of next calibration due and corrective action taken. RMC producer shall ensure additional calibration checks whenever required by Engineer-in-Charge in writing to contractor. RMC producer shall also maintain a daily production record including details of customers to whom RMC was supplied including details of mixes supplied. Record shall also be maintained of what materials were used for each day's production including water and admixtures.

The accuracy of measuring equipment shall be within $\pm 2\%$ of quantity of cement and $\pm 3\%$ of quantity of aggregate, admixture and water being measured.

- (d) Maintenance of Plant, Truck Mixture and Pumps: -

Plant, Truck Mixtures and Pumps should be well maintained so as to not hamper any operation of production, transportation and placement of concrete.

- (e) Production of concrete at RMC producing plant.

- (i) Weighing (correct reading of batch accurate weighing): - For each load, written, printed or graphical records shall be made of the weights of the materials batched, the estimate slumps, the total amount of water added to the load, the delivery tickets number for that lead and the time of loading the concrete into the truck.

- (ii) Visual observation of concrete production and delivery or during sampling and testing of fresh concrete (assessment of uniformity cohesion, workability, adjustments to water content) :- The workability of the concrete shall be controlled on a continuous basis during production. The batch mix found unfit shall not be loaded into the truck for transportation. Necessary corrective action shall be taken in the production of mix as required for further batches.

- (iii) Adequate testing equipments at the plant including equipment for measuring surface

- moisture content of aggregates shall be provided by the RMC producer.
- (iv) Making corresponding adjustment at the plant automatically or manually to batched quantities to allow for observed, measured or reported changes in materials or concrete qualities.
 - (v) Sampling of concrete, testing, monitoring of results.
 - (vi) Diagnosis and correction of faults identified from observations/complaints.
 - (vii) Control of designed and prescribed mixes: - A quality control system shall be operated to control the strength of designed mixes the required levels. The system shall include continuous analysis of results from cube tests.

Particular Specifications

GENERAL

- 1.0 The work shall be executed and measured as per metric dimensions given in the Schedule of quantities, drawings etc. (F.P.S. units wherever indicated are for guidance only).
- 1.1 All stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries to be got approved from the Engineer-in-charge.
 - 1.1.1 Sand to be used for cement concrete work, mortar for masonry and plaster work shall be of standard quality and shall be obtained from approved source to be got approved from the Engineer- in-charge and screened as required. The same shall consist of hard siliceous material. It shall be clean sand.
 - 1.1.2 Unless otherwise specified in the schedule of quantities, the rate of all items of the work shall be considered as inclusive of pumping out or bailing out water, if required, for which no extra payment will be made. This will include water encountered from any sources such as rains, floods, sub-soil water table being high or due to any other cause whatsoever.
- 1.3 All the materials required to be tested shall be tested as per provisions of the relevant B.I.S. Codes. Should there be any difference between acceptances CRITERIA given in B.I.S. Codes, C.P.W.D. Specifications and special conditions, the acceptance CRITERIA shall be in the following order of precedence:
 - a. Special conditions
 - b. C.P.W.D. Specifications
 - c. B.I.S. Codes

2.0 EMBEDDING OF PIPES, CONDUITS ETC.

- 2.1 The brick work for the portions of external wall of W.C. through which pipes are taken, will be done after the pipes are fixed as far as practicable.
- 2.2 All crossings, embedment etc. in walls and floors for water supply, drainage and sanitary pipes, fittings etc. shall be provided as per previously prepared detailed drawings for individual walls and floors so as to avoid cuttings of brick work and floors. All such areas shall be made good during finishing and nothing extra shall be paid for this.

3.0 RCC WORK

- 3.1 The steel bars shall be stored about 30 to 45 cm above ground. A uniform coat of cement wash shall be given to steel reinforcement bars. In places where rainfall is heavy, steel bars shall be stored in protective environment to mitigate deterioration due to corrosion.

The cement for application of slurry on steel bars will be duly issued. However, no extra payments shall be payable for the application of slurry coating on steel bars.

3.2 Design Mix Concrete, if required.

The bulk of concrete of required mix shall be arranged from RMC plant and smaller quantities in lintel band etc. similar locations will be allowed for production at site for contractor shall be required to install automatic batching plant of minimum 5 cum per hour capacity. For design mix, provisions of IS:456-2000 – Latest Edition shall be followed.

Following parameters shall be adopted for mix design as per IS-456-2000 (Latest Edition).

- 3.2.1 Approved admixtures conforming to IS 9103 shall be permitted to be used. The chloride content in the admixture shall satisfy the requirement of BS 5075. The total amount of chloride content in the admixture mixed concrete shall satisfy the requirement of IS 456-2000.
- 3.2.2 The Concrete mix design with and without admixture will be carried out by the Contractor, at his own cost, through one of the following laboratories/ Test House to be approved by Engineer-in- Charge: -
 - (i) IIT, Delhi
 - (ii) National Council for Cement & Building Materials, Ballabgarh.
 - (iii) CRRI, Delhi
 - (iv) Delhi Technological University, Shahbad Daulatpur, New Delhi
- 3.2.3 In the event of all the four laboratories being unable to carry out the requisite design/ testing, the contractor shall have to get the same done from any other reputed laboratory with prior approval of the Engineer- in-Charge.
- 3.2.4 The various ingredients for mix design/ laboratory tests shall be sent to the approved lab/ test houses through the Engineer – in – Charge and the samples of such ingredients sent shall be preserved through at site by the contractor till completion of work or change in Design Mix whichever is earlier. The sample taken from the approved materials which are proposed to be used in the work.
- 3.2.5 The Contractor shall submit the mix design report from approved laboratory for approval of Engineer-in-Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the mix design is approved by Engineer-in-Charge.

The contractor shall make cubes of trial as per approved laboratory for all grades of concrete in presence of the Engineer-in-charge using same ingredients as adopted for design mix, prior to commencement of concreting and get them tested in presence of Engineer-in-charge. The testing and the acceptance of the trial mixes shall be as CPWD specifications. The conformity of mix design should be established by conducting three repeat trial mix tests. In each repeat trial mix cubes of standard size 15cm x 15 cm x 15 cm shall be cast, out of which three cubes shall be tested after 7 days & 3 cubes shall be tested after 28 days. The provision shall be as per relevant paras of CPWD specifications 2019.

- 3.2.6 90% of the total trial mix tests shall be done in the laboratory established at site by the contractor and remaining 10% in the laboratory of Central Design Organization, CPWD or in

any other laboratory as directed by Engineer –in-Charge. The testing charges would be governed by para 5.0 of special conditions.

- 3.3 For each change of source or quality/ characteristic properties of the ingredients from that approved & used in the concrete mix during the work, a fresh mix design shall be got done by the contractor. However, maximum two such changes shall be permitted in the whole work. For any change, the Contractor shall bear the cost of fresh Mix Design. Revised trial mix tests shall be conducted at laboratory established at site or Engineer-in-charge may order for testing of these cubes from any approved laboratory.
- 3.4 The cost of packaging, sealing, transportation, loading, cost of samples and the testing charges for mix design in all cases shall be borne by the Contractor.
- 3.5 The mix design shall be done considering the degree of quality control as “GOOD” in all cases.

3.6 REQUIRMENT OF DESIGN MIX

- 3.6.1 The mix design for a specified grade of concrete shall be done for target mean compressive strength $T_{ck} = f_{ck} + 1.65 S$

Where: f_{ck} = characteristic compressive strength at 28 days.

S = Standard deviation which depends on degree of quality control.

- 3.6.2 The degree of quality control for this work shall be “GOOD” for which the standard deviation (s) for different grades of concrete as per IS 456-2000 shall be followed.

Standard deviation calculation of test results shall also be done as per clause 9.2.4 of IS 456-2000 for maintaining the quality control.

- 3.6.3 The mix design shall be carried out generally in accordance with the provisions made in CPWD specification and IS 456-2000 read along with the provisions mentioned in these documents.

- 3.6.4 Acceptance criteria for trial Mix: -

Average of all the cubes tested at 28 days shall be more than target mean strength (i.e. $f_{ck} + 1.65 S$). No. individual cube shall be less than 0.85 times target mean strength.

- 3.6.5 Work strength Test and Acceptance criteria: -

Work strength Test for strength of concrete shall be carried out as per para 5.8.12.2 of CPWD specifications 2002, relevant paras of CPWD specifications 2019 will supersede. 90% of the total work strength tests shall be done at the laboratory established at site by the contractor and remaining 10% in the laboratory of Central Design Organization, CPWD or in any other laboratory as directed by Engineer-in-charge. The testing charges would be governed by para 5.0 of special conditions. The acceptability criterion given in para 5.8.4.1 of CPWD specifications 2002, relevant paras of CPWD specifications 2019 will supersede shall be read along with followings: -

- (a) In case four consecutive tests results (as per 5.8.4.1 of CPWD specifications) are not available in one day's concreting the standard deviation for purpose of acceptance of concrete shall be calculated on the basis of all the cube test results of the particular day of concreting. If the cube results of individual cube do not comply with the conditions mentioned in column 3 of Table 6 of para 5.8.4.1 of CPWD specifications 2002, relevant paras of CPWD specification 2019 will supersede but the test results satisfy the requirement of mean compressive strength as mentioned in column 2 of above table the concrete represented by the cube not meeting the requirement shall be at risk. The Engineer-in-Charge reserves the right to reject the said concrete or to accept it at reduced rate subject to establishing the structure adequacy by means of additional tests and suitable remedial measures as directed by Engineer-in-Charge.
- (b) If the test results do not satisfy the requirement of mean compressive strength as mentioned in column 2 of Table 6 of para 5.8.4.1 of CPWD specifications, 2002, relevant paras of CPWD specifications 2019 will be superseded. The Concrete represented by the test results shall be at risk.

4.0 WOOD WORK

- 4.1 Factory made shutter, as specified shall be obtained from factories to be approved by the Engineer-in-charge & shall conform to relevant Indian Standards. The contractor shall inform well in advance to the Engineer-in-charge, the names and address of the factory from which the contractor intends to get the shutters manufactured. The Contractor will place order for manufacture of shutters only after written approval of the Engineer-in-charge in this regard is given. The contractor is bound to abide by the decision of the Engineer-in-charge & recommend a name of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters. Shutters will, however, be accepted only if this meets the specified tests. The contractor will also arrange stage wise inspection of the shutters at factory to the Engineer-in-charge or his authorized representative. Contractor will have no claim if the shutters brought at site are rejected by Engineer-in-charge in part or in full lot due to bad workmanship and quality. Such shutters will not be measured & paid and the contractor shall remove the same from the site of work within **7 days** after the written instruction in this regard is issued by Engineer-in-charge or his authorized representative.

5.0 FLOORING, SKIRTING, VENEERING, DADO, RISERS & STEPS, JAMBS, SILLS & SOFFITS

- 5.1 Nothing extra shall be payable for using combination of marble, granite, Kota stone, sand stone slabs & ceramic tiles etc. in the required pattern at various locations.
- 5.2 Nothing extra will be paid for the additional thickness of bed mortar that will be required to achieve uniform finished surfaces on account of difference in specified thickness of marble, granite, Kota stone, sand stone & ceramic tiles etc.
- 5.3 Flooring in toilets, verandah, kitchen, courtyard etc. shall be laid to the required slope/gradient as per the directions of the Engineer-in-Charge.
- 5.4 The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge.

6.0 **STEEL WORK**

6.1 The rate of T/L iron frame shall include the cost of materials & labour of the following.

- (a) M.S. tie of 10 mm dia. bar shall be welded to M.S. frames at the bottom to keep the frames in correct position. The tie shall be embedded in floor concrete. No tie shall be necessary for window frames.
- (b) M.S. frame for doors shall have 4 Nos. M.S. lugs 15 x 3 mm., 10 cm long, welded to each vertical member of the frame.
- (c) The M.S. plate cramps 15 x 6 mm thick for holding arrangements shall be provided and welded as per site conditions.

6.2 Steel windows/ventilators to be provided in the work shall be from ISI approved manufacturers or from the firms approved by the ADG (RL) CPWD, Lucknow.

7.0 **WATER PROOFING TREATMENT**

The water proofing items to be approved by **Engineer in Charge**.

7.1 **INTEGRAL CEMENT BASED WATER PROOFING TREATMENT**

7.1.1 The proprietary waterproofing compound shall preferably bear ISI mark or shall conform to I.S. 2645 (upto date amendments) Water proofing compound shall be brought to site prior to commencement of work, from which random sample would be got tested to ascertain its conformity to the relevant

I.S. code. The proprietary waterproofing compound shall be added at the rate recommended by the manufacturing firm, but not exceeding 3 percent by weight of cement. Water proofing compound shall be kept under double lock and key & record of its issue shall be kept in the same manner as for issue of cement.

7.1.2 While doing treatment of roof surface, it shall be ensured that the outlet drain pipes have been fixed and mouths at the entrance have been eased and rounded off properly for easy flow of water.

7.1.3 The surface where the waterproofing is to be done, shall be thoroughly cleaned with wire brushes. All loose scales shall be removed and dusted off. The surface shall be treated with neat cement slurry admixed with proprietary water proofing compound, to penetrate into crevices and fill up all the pores in the surface. This cement slurry shall also be applied at the junction of parapet and terrace slab including the vertical face of the parapet.

7.1.4 After the slurry coat is laid, layer of well burnt brick bats shall be laid to required gradient and joints filled to half the depth, in cement mortar of mix as specified by the manufacturing firm, but not leaner than 1:5 (1 cement: 5 coarse sand) duly admixed with proprietary waterproofing compound. The brickbat layer shall be rounded at the junction with parapet and merged with the treatment to be provided on the parapet up to 300mm. height. Curing of this layer shall be done for 3 days.

7.1.5 After curing, the surfaces shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.

7.1.6 Joints of brick bats layer shall be filled fully with cement mortar of mix as specified by the

specialist firm but not leaner than 1:4 (1 cement: 4 coarse sand) admixed with proprietary water proofing compound and finally top finished with average 20 mm thick layer of same mortar and finished smooth with cement slurry admixed with proprietary water proofing compound. The finished surface shall have marking of 300 x 300 mm false squares.

- 7.1.7 Curing of water proofing treatment, thus completed, shall be done for a minimum period of ten days.
- 7.1.8 The finished surface, after water proofing treatment, shall have minimum slope of 1 in 80. At no point, shall the thickness of water proofing treatment, be less than 65 mm.
- 7.1.9 The measurements shall be taken along the finished surface of treatment including the rounded and tapered portion at junction of parapet wall. Length and breadth shall be measured correct to one centimeter and area shall be worked out to nearest 0.01 sqm. No deduction in measurements shall be made for either openings or recesses for chimneys, stacks, roof lights and the like for areas up to 0.40 sqm. Nothing extra shall be paid, for forming such openings. For similar areas exceeding 0.40 sqm. deductions shall be made in measurements for full openings and nothing extra shall be paid for making such openings.
- 7.1.10 The rate shall include the cost of all labour and materials involved in all the operations described above.
- 7.1.11 APP Water Proofing Treatment:** The membrane shall be laid as per manufacturers specification fully bonded to substrate with 10cm side laps, 15 cm end laps and 100x35cm base flushing. Material should be procured from the Authorized distributor accompanied with Test Certificate of the product with batch number & date etc. complete as per the direction of Engineer –in- Charge.

7.1.12 GUARANTEE FOR WATER PROOFING TREATMENT

The contractor shall give **10 years** performance guarantee and **additional Performance Guarantee (if any)** in the prescribed proforma (specimen appended) for the water proofing treatment. In addition, 10% (Ten percent) of the cost of these items shall be retained as security, to watch the performance of the work executed. However, half of this amount (withheld) shall be released after maintenance period of Five years, after the completion of the work, if no defect comes to the notice. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within Seven days and, if not attended to, the same shall be got done by other agency at the risk and cost of the contractor. In any case the guaranteeing firms during the guarantee period shall inspect and examine the treatment once every year and make good any defect observed. However, the 10 % security deposit referred above can be replaced with bank guarantee of equivalent amount for relevant period.

8.0 CUT BRICK (MARUKONA)

Wherever cut brick (Marukona), as required under relevant para of C.P.W.D. Specifications 2019 Vol. I, is not feasible, on account of available quality of bricks, the same shall be replaced by cement concrete 1:2:4 and no extra payment for the provisions of C.C. 1:2:4 shall be made nor would the quantity of C.C. 1:2:4 thus provided be deducted from measurements of brick work.

9.0 **ALUMINIUM WORK**

9.1 **GENERAL**

The following are applicable particularly to Aluminum Works as contained in this tender document: -

9.2 **MANUFACTURER'S TEST CERTIFICATE**

The contractor, if required by the Engineer-in-Charge, shall produce manufacturer's test certificates for any material or particular batch of materials supplied by him. The test carried out shall be as per relevant specifications / Indian standard codes.

9.3 **APPROVAL OF SAMPLES**

The contractor shall submit to the Engineer-in-charge, samples of all materials for approval and no work shall commence before such samples are approved. **Samples of un-anodised as well as anodised and electro-coloured aluminum sections, neoprene gaskets, thermal barrier sections, glass, screws, hardware and any other material components requiring approval of samples, in opinion of Engineer-in-charge shall be submitted for approval. The above samples will be retained as standards of materials and workmanship.**

9.4 **ALUMINIUM SECTIONS.**

9.4.1 Aluminum sections to be used for doors, windows, ventilators and fixed glazing etc. shall be manufactured by reputed companies & shall be appropriate to meet architectural designs of relevant components.

9.4.2 The aluminium extruded sections shall conform to B.I.S., Designations EIWP/HVIWP alloy, with chemical composition and technical properties as per B.I.S. 733 and B.I.S. 1285, respectively.

9.4.3 For sectional weight, tolerance limits shall be (-) 0.5%

9.5 **FABRICATION**

9.5.1 All joints shall be accurately fabricated and be hairline in appearance.

9.5.2 Taking into consideration varying profiles of aluminium sections being extruded by approved manufacturers, the contractor shall prepare detailed shop drawings of his proposal using suitable sections based on architectural design/drawings, adequate to meet the requirement/specifications laid down in this tender document and as proposed by the manufacturer and these detailed showdrawings shall be subject to approval of the Engineer-in-Charge.

9.5.3 All doors, windows, ventilators and glazing etc. shall be completely leak proof against water and air with neoprene gaskets and silicon sealants to the best satisfaction of the Engineer-in-charge, for which no extra payment shall be made.

9.5.4 The frames shall be strictly as per Architectural drawings; the corners of the frame being fabricated to the true right angles. Both the fixed frames and openable shutter frames shall be fabricated out of sections, which have been cut to length, mitered and mechanically joined

for satisfactory performance. All members shall be accurately machine milled and fitted to from hairline joints. The jointing accessories such as cleats, brackets, screws etc. shall be of such materials as not to cause any bimetallic action. Nothing extra shall be paid for jointing accessories.

9.5.5 Mitered joints of the doors, windows, ventilators shutters and frames shall be either corner crimped or fixed with self-tapping stainless-steel screws of approved make and quality with heavy duty extruded aluminium cleats and sealed with silicon sealant, for which nothing extra shall be paid.

9.5.6 Verticals of the frame shall be embedded in the floors, wherever required, up to 50 mm, by cutting and making good of the floor. Nothing extra shall be paid for the same.

9.6 **FIXING**

(a) The screws used for fixing aluminium frames to masonry walls/RCC members and aluminium members to another aluminium members shall be **Cadmium plated & of aluminium alloy or stainless steel** of approved make and quality. Threads of machine screws used shall conform to requirement of I.S. 4218.

(b) The gap between frames and supports and any gap in the various sections shall be filled with approved silicon sealant to ensure complete water tightness. The sealant shall be such approved colour and composition that it would not stain the masonry/RCC work. It should not sag or flow and shall not set hard or dry out under any conditions of weather. The SILICON sealant shall be used as required and shall match the colour of the aluminium sections. Any excess sealant shall be removed/cleared. Nothing extra shall be paid for the above.

9.7 **ANODIZING / ELECTRO COLOURING**

9.7.1 Aluminium sections shall be anodized as per B.I.S. 7088-1973. Anodizing to be as per grade AC-15 and not less than 15 microns thick, when measured as per B.I.S. 6012, in matte champagne electro colour with colour fastness rating No. 8 of B.I.S. 1868-1982. Colour anodizing would be done only by electro-colour process. No visual variation in colour shall be permitted.

9.7.2 The anodic coating shall be properly sealed by steam or by boiling in deionized water as per B.I.S. 1868 and / or B.I.S. 6057. Sealing quality shall be tested in accordance with the relevant standards. Nothing extra shall be paid for above.

9.7.3 The contractor should satisfy himself by 100% checking in the factory that the thickness of the anodic coating is found to be minimum 15 microns and sealing quality appropriate everywhere. The testing shall be done by **EDDY CURRENT METHOD** as per B.I.S. 6012 for thickness. If any material is found substandard, the same shall be totally rejected. Requisite tests shall also be required to be carried out at site as instructed by the Engineer-in-charge and the contractor shall arrange all the equipments required for these tests at site. Nothing extra shall be paid for above.

9.7.4 All anodized aluminum works shall conform to relevant B.I.S. standards relating to materials, workmanship & fabrications respectively. Codes including B.I.S. 1868-1982, B.I.S.

733-1983 B.I.S. 1948-1961, B.I.S. 7088-1973, B.I.S.. 6012-1970, B.I.S. 1285-1975, B.I.S. 740-1975 respectively are considered relevant and applicable.

9.7.5 A thick layer of clear transparent lacquer based on methacrylate or cellulose styrate shall be applied on the anodized sections, before they are brought at site. This lacquer shall be removed after installations are complete or as an alternative, the exposed surface of the aluminium sections shall be provided with gummed paper tape protection. After fixing and assuring of proper functioning of doors, windows etc., such protective layer shall be cleaned out/removed. Nothing extra shall be paid for above to the Contractor.

9.8 GLAZING

9.8.1 All glass panes shall be retained within aluminum framing by use of exterior grade neoprene gaskets. No water leakage should occur on the interior even if water penetrates exterior neoprene gaskets. Use of glazing or caulking compounds around the perimeter of glass will not be permitted. All fixed glass panes shall be supported by setting blocks. There should be no whistling or rattling. Before installation of glass, contractors shall ensure the following:

- a) All glazing rebates shall be square, to plumb, true to plane, dry and free from dust.
- b) Glass edge shall be clean and cut to exact size.
- c) Glazing shall provide such thermal expansion and contraction of components, as will be caused by temperature variations inside and outside without causing buckling stress on glass or detrimental effect on and structural elements components.

9.8.2 Samples of typical glazing shall be made and got approved by the Engineer-in-charge before mass installation is taken in hand.

9.9 PROTECTION AND CLEANING

9.9.1 After erection and removal of protective layer, all aluminium works including glass panes shall be washed with a suitable thinner and water to give a uniform clear appearance free from all marks and blemishes.

9.10 MEASUREMENT AND RATES

9.10.1 For Aluminium frame work, the payment shall be made as per actual weight in accordance with the procedure prescribed by Engineer-in-charge.

9.10.2 For fixed glazing and fixed laminated inserts, length and breadth of the area where glass panes etc. are to be seated, shall be measured correct to half a centimeter and area to be calculated in square meters correct to two places of decimal.

9.10.3 For openable shutters portion for all types payable on the area basis, clear openings of shutter shall be measured at its closed position correct to half centimeter and area shall be calculated in square meter correct to two places of decimal.

9.10.4 Prefabricated anodized aluminium decorative protective grill (including frame work) shall be measured correct to half a centimeter in both the directions and area worked out correct to two places of decimal.

- 9.10.5 It is made clear those items such as cleats/angles, other fixtures, nuts, bolts, screws etc., which shall be required for fabrication and erection of aluminium work as per these tender documents, shall not be considered for the purpose of measurements and payment of various items. The rate of various items as per schedule of quantities is however inclusive of above elements and nothing extra shall be paid for the same.

10.0 **VARIATION IN CONSUMPTION OF PIG LEAD**

The pig lead for caulking of joints of SCI/CI pipes shall be issued as per theoretical consumption for SCI/CI pipes of size 100 mm, 75 mm & 50 mm, @ 0.98 kg., 0.88 kg. and 0.77 kg. per joint respectively. Over and above the theoretical quantities of lead as worked out, a variation of 5% shall be allowed for wastage etc. Any difference between the actual consumption of pig lead and theoretical consumption worked out on the above basis, including the authorized variation shall be recovered at the rate mentioned under schedule "F". Where the pig lead is arranged by the contractor, variation of 5% will be allowed. In case variation is on lesser side, the quantity of less pig lead used shall be recovered from the contractor at market rate to be determined by the Engineer-in-charge, whose decision in the matter shall be final & binding.

11.0 **PAINT BROUGHT BY THE CONTRACTOR**

11.1 The contractors shall bring sufficient quantity of paint of brand & shade approved by Engineer - in- charge prior to the commencement of work & keep it in his stores at site of work under double lock& key.

11.2 The paint shall be issued to the contractor from time to time according to requirements for the work in the same manner as followed for issue of cement

11.3 Empty containers shall not be removed without the written permission of the Engineer-in-charge.

12.0 **FIXING OF SCI/CI PIPE**

The SCI/CI pipes and G.I. pipes, wherever necessary, shall be fixed to RCC columns, beams etc. with rawl plugs, or appropriate fasteners as approved by Engineer-in-Charge, and nothing shall be payable on this account.

13.0 **MULTICOAT-SYNTHETIC PLASTER: -**

This shall consist of two parts-(1) SCRATCH-PLASTER & (2) TERRACOAT respectively whose composition shall be as under: -

- i) **SCRATCH-PLASTER:** -It shall have two component which comes in liquid & powder form. These shall be mixed at site before application in the ratio 25kg. Powder in 1.0 litre of liquid. Powder shall be made-up of acrylic powder polymer, inert filler material in powder form, finally graded silica (450 micron to 1.00mm graded) particles, Anti-fungal agents, Emulsifying agent (Extender) to prevent lumping of powder during mixing, Titanium dioxide pigments for making it water-proof from exterior while allowing trapped water vapor breathability & Thixotropic agent for maintaining consistency of mix. & to prevent flowing of mix during application **(EUROFIN Or equivalent)**. The surface to be covered shall be pre-cured & shall be applied with surface stabilization primer before application of Scratch-

- plaster
- ii) **TERRACOAT:** -- It shall be made-up of Acrylic Co-polymer emulsion, crushed & precisely graded silica particles (500 micron & down size), high quality retille (Purest form) grade Titanium di-oxide, fungicide, plasticizers & anti-corrosive agent (**EUROFIN Or equivalent**). This shall be applied over scratch-plaster in two or more coats to get approved shade & pattern

13.1 Measurement: -- Area of surface covered shall be measured to the nearest Sq.cms.

13.2 Rate: -- Rate shall be inclusive of all materials & labour involved in its application & appurtenant operations involved therein

14.0 SANITARY INSTALLATIONS /WATER SUPPLY / DRAINAGE

- 14.1 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.
- 14.2 The entire plumbing drawing and sanitary installation drawings / details shall be submitted by the contractor and got approved by the Engineer-in-Charge and nothing extra shall be paid for on this account.
- 14.3 The work in general shall be carried out as per CPWD Specifications - 2019 Volume I and II modified / corrected upto last date of receipt of tender. Rate includes all materials, labour and all the operations mentioned in the respective items unless and otherwise specifically mentioned.
- 14.4 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.
- 14.5 Vitreous China sanitary fittings procured from firms Neycer, Hindware, Cera, Parrware shall only be used subject to approval of samples by the Engineer-in-Charge unless otherwise specified in the items.
- 14.6 C.P. Brass pillar taps, bib cocks, flush valves, angle valves etc. shall be of make Gem / Jaguar / Kingston as per sample approved by the Engineer-in-Charge. C.P. Brass bib cocks / angle valves shall be fixed with heavy duty CP flange for which nothing extra shall be paid.
- 14.7 The Centrifugally spun cast iron pipe BIS:3989-1984 wherever necessary shall be fixed to RCC columns, beams etc. with dash fastener of approved quality and nothing extra shall be paid for on this account.
- 14.8 P or S floor traps (long arm up to 90cm length) in WCs shall be of deep seal type of approved make and shall have a minimum water seal of 75mm. While for floor traps (long arm up to 90cm length) shall have a minimum water seal of 50mm.
- 14.9 The contractor shall be responsible for all the protection of sanitary water supply fittings and fixtures against pilferage and breakage during the period of installation until the completion / handing over of the work.

- 14.10 Sanitary fixtures shall be of the best quality and shall be of approved make and manufacture (wherever specified) as defined in the item of work or defined anywhere in this document or shall be as mentioned in the CPWD specifications failing which the same shall be of ISI mark subject to approval by the Engineer-in-Charge. All fixtures and fittings shall be provided with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the Schedule of Quantities, specifications, elsewhere in this tender document & drawings. The quoted rates shall be deemed to be all inclusive for a complete item fit for use including all materials, labour, T&P, specials, equipments, testing & commissioning etc. Accessories shall include proper fixing arrangement, brackets, nuts, bolts, screws and required connection pieces. All the accessories shall be of the arrangements required and recommended by manufacturer including testing and commissioning.
- 14.11 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.
- 14.12 The contractor shall submit completion plans for water supply, internal sanitary installations and building drainage work within thirty days of the date of completion. These plans are to be submitted on drawings prepared through computers (1 original copy plus 3 Photostat and one soft copy) on suitable scales to show the general arrangement and desired details. Nothing extra shall be paid for on this account. In case the contractor fails to submit the completion plans as aforesaid, security deposit shall not be released.
- 15.0 The words “Equivalent”, “Approval” and authorized” in these specifications shall imply and require written approval of the Engineer-in-Charge.
- 16.0 The rates shall include the following: -
- 16.1 All necessary materials, bolts, nuts, fasteners, nails, screws, rawl plugs, etc. as may be necessary to complete the work detailed in the specifications, whether or not specifically mentioned. The bidder should ensure that he has studied the drawings carefully and should seek any clarifications he may have from the Executive Engineer-in-charge of the work. No extra claims will be entertained later on.
- 16.2 Cutting, making and repairing of any holes/opening Junction Box for electrical purpose etc. required for any light fittings, loudspeakers, air-conditioning grills etc.

MINIMUM QUALITY ASSURANCE PLAN

2. The contractor has to comply with the minimum quality assurance plan, as follows: -
 - (i) Lot size, number of required tests and frequency of testing shall be conducted as per CPWD specification and BIS Code.
 - (ii) All the relevant and applicable codes, specification and standards, as well as the acceptance criteria for various items of work, workmanship, materials & process employed should be made available at site office by contractor.
 - (iii) Maintenance of register of tests –
 - (a) All the register of tests carried out at Construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer – in – Charge.
 - (b) All samples of materials including cement concrete cubes shall be taken jointly with contractor by JE and out of this at least 50% samples shall be taken in presence of AE-in-charge. If there is no JE, all samples of materials including cement concrete cubes shall be taken by AE jointly with contractor. All the necessary assistance shall be provided by the contractor. Cost of sample materials is to be borne by the contractor & he shall be responsible for safe custody of sample to be tested at site.
 - (c) 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 and 50% of tests shall be witnessed by AE-in-charge. At least 10% of the tests are to be witnessed by the Executive Engineer.
 - (d) 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.
 - (e) Contractor shall be responsible for safe custody of all the test register.
 - (iv) Submission of copy of all test registers, material 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 AE (P) in Division Office and receipt of registers should also be acknowledged by AAO by signing the copies.
 - (v) Maintenance of material at site (MAS) Register.
 - (a) All the MAS registers including cement and steel register shall be maintained by contractor which shall be issued to the contractor by Engineer- in- charge.
 - (b) Each of the entry of receipt of material at site shall be test checked 100% by the J.E. or by AE if there is no JE.
 - (c) MAS register shall be checked twice a week by the JE and at least once a week by the AE.
 - (d) Cement register shall be reviewed by EE at least once in a month.
3. The contractor shall make his own arrangement of water for construction and drinking purpose as well for electricity and its distribution at his own cost. The department will render only assistance to the contractor for making application to Local body/ authorized Electric supply agency, if required. All the fees and charges including consumption charges shall be borne by the contractor. The contractor can make deep well boring at site. The water should be as per CPWD specifications, 2019 and necessary test shall be conducted as per CPWD specification.
4. The contractor shall not damage any electric cable / inter com cable / sewer line / water line during execution of work. For any damage to the services if occurred, the contractor shall be fully responsible and he has to restore the same services at his risk & cost.

5. The contractor will not have any claim in case of any delay by the Engineer-in-Charge in removal of trees or shifting, removing of telegraph, telephone or electric lines (overhead or underground), water and sewer lines and other structure etc., if any which may come in the way of the work. However, suitable extension of time can be granted to cover such delay.
6. The malba /garbage generated at site due to construction activities shall be removed from the site immediately & shall be disposed off by the contractor to the approved dumping site identified by the Engineer-in-charge. The surplus soil/earth shall be disposed of as per the directions of Engineer-in- charge separately.
7. The contractor shall clean the site thoroughly of scaffolding materials, rubbish, equipments left out of his work and dress the site around the building to the complete satisfaction of the Engineer-in- charge before the work is treated as completed.
8. The contractor shall ensure quality control measures on different aspects of construction materials, workmanship and correct construction methodologies to be adopted. All the registers of tests carried out at Construction Site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge.
The contractor shall submit samples of various materials to be used for the approval of the Engineer-in-charge out of the brands provided in the agreement.

The contractor shall submit drawings of shuttering arrangement etc. for the approval of Engineer- in-Charge. The contractor shall also submit bar bending schedule for approval of Engineer-in- Charge before execution.
9. The contractor shall establish a site laboratory & make arrangement of Engineers / Technicians for testing of materials as per specification and maintain the record of test results in required Proforma as per direction of engineer-in-charge. A tentative list of minimum equipment's for site laboratory, to be established by the contractor at site is as under: -

ANNEXURE-1**LIST OF EQUIPMENT FOR FIELD TESTING LABORATORY**

S. No.	Equipments	Nos.
1.	Balances	
(i)	7 kg. to 10 kg. capacity, semi-self-indicating type- accuracy 10 gms.	1
(ii)	500 gm. capacity, semi-self-indicating type – accuracy 1 gm.	1
(iii)	Pan balance – 5 kg. capacity – accuracy 10 gms.	1
2.	Ovens – electrically operated, thermostatically controlled upto 110° C – sensitivity 1° C.	1
3	Sieves: as per IS 460-1962.	
(a)	Sets of sieves of 450mm internal dia for coarse aggregate [100mm, 80mm, 40mm; 20mm; 12.5mm,10mm; 4.75mm complete with lid and pan]	2
(b)	Sets of sieves of 200mm internal dia for fine aggregate [4.75mm; 2.36mm; 1.18mm; 600 microns; 300 microns & 150 microns, with lid and pan]	2
(c)	Sieve Brushes and sieve shaker capable of 200mm and 300mm dia sieves, manually operated with timing switch assembly	2
4	Slump cone, steel plate, tamping rod, steel scale, scoop	2
5	Dial gauges, 25mm travel – 0.01 mm/division least count- 2 nos.	1
6	100MT compression testing machine, electrical-cum-manually operated)	1
7	Graduated glass measuring cylinder	As per requirement
8	Enamel trays (for efflorescence test for bricks)	
(i)	300mm x 250mm x 40mm – 2 nos.	2
(ii)	Circular plates of 250mm dia – 4 nos.	4

ANNEXURE-II
FIELD TESTING INSTRUMENTS

S.No.	Instruments	Nos
1	Steel tapes – 3m	3
2	Vernier calipers	1
3	Micrometer screw 25mm gauge.	1
4	A good quality plumb bob.	2
5	Spirit level, minimum 30 cms long with 3 bubbles for horizontal vertical.	1
6	Wire gauge (circular type) disc	1
7	Foot rule.	2
8	Long nylon thread	5
9	Rebound hammer for testing concrete	1
10	Dynamic penetrometer	1
11	Magnifying glass	1
12	Screw driver 30 cms long	4
13	Ball pin hammer, 100 gms.	1
14	Plastic bags for taking samples	As per requirement
15	Moisture meter for timber	1
16	Earth resistance tests (for electrical divisions)	1
17	Megger (for electrical divisions)	1

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

Name of the work.....Name of contractor
 Agreement
 nt No.
 and date.....R/A Bill No.....

Sl. No.	Item	Quantities as per agmt.	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

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

Signature of Junior Engineer

Signature of Assistant Engineer

Signature of Executive

Engineer

LIST OF APPROVED MAKES OF MATERIALS (FOR CIVIL WORKS)

Specification/brands names of materials (Refer materials, whichever are applicable for the scope of work) and finishes approved by the Engineer-in-Charge are listed below. However, approved equivalent materials and finishes of any other specialized firms may be used, in case it is established that the brands specified below are not available in the market and subject to approval of the alternate brand by the Engineer-in-Charge, (See also conditions of contract).

Sl. No	DETAILS OF MATERIALS	MANUFACTURERS/MODEL/MAKE NAME
<u>A</u>	<u>CONCRETE/RCC WORK</u>	
1	CEMENT (OPC 43 GRADE) AND CEMENT (PPC)	ACC, AMBUJA, ULTRATECH, JK CEMENT, BIRLA, SHREE CEMENT, JAYPEE CEMENT, VIKRAM, WONDER CEMENT
2	READY MIXED CEMENT CONCRETE	ACC, ULTRATECH, ETHEREAL ENGINEERS PVT LTD, CEMEX CONCRETE INDIA PVT LTD, TECHNO PRIME RMC PVT LTD.
3	WHITE CEMENT	BIRLA WHITE, J.K. WHITE, ULTRATECH
4	ADMIXTURES FOR PCC/RCC/MORTAR	FOSROC, SIKA, BASF, MAPEI, PIDILITE INDUSTRIES, FERROUS CRETE, DON, MAKPHALT.
5	CURING COMPOUND	FOSROC, SIKA, CICO, BASF, PIDILITE INDUSTRIES, FERROUS CRETE.
<u>B</u>	<u>STEEL WORK</u>	
1	STEEL (TMT FE-500D or OTHER GRADE)	SAIL, TATA STEEL LTD., RINL, JINDAL STEEL & POWER LTD, JSW STEEL LTD.
2	STRUCTURAL STEEL SECTIONS	SAIL, TATA STEEL LTD, RINL, JINDAL STEEL & POWER LTD, JSW STEEL LTD, APL APOLLO.
3	STEEL SECTION FOR DOOR/ WINDOW FRAME.	TATA, JINDAL, APL APOLLO
4	S.S. STAIRCASE RAILING	KICH, DORMA, OZONE, JINDAL, TECHNORAIL.
5	STONE CLADDING CLAMPS	HILTI, FISHER, BOSCH, WUERTH.
6	WELDING RODS	ADVANI, ESAB
7	DASH, ANCHORING FASTENERS, CHEMICAL ANCHOR, SS CLAMP SYSTEM FOR STONE CLADDING, REBARRING CHEMICAL	HILTI, FISCHER, BOSCH, RIPPLE, WUERTH.
<u>C</u>	<u>MASONRY WORK</u>	
1	STONE ADHESIVE	ARDEX ENDURA, WEBER, MYK LATICRETE, MAPEI, UNITED, FERROUS CRETE.
2	STONE SURFACE SEALER/IMPREGNATION & CLEANING AGENTS	ARDEX ENDURA, WEBER, MYK LATICRETE, MAPEI
3	POLYMER MODIFIED MORTAR	SIKA, FOSROC, LATICRETE, ULTRATECH, WEBER
4	MICRO CONCRETE	SIKA, FOSROC, BASF, LATICRETE, ULTRATECH
5	GRC JALI	UNISTONE, BIRLA WHITE, SANDERSON, DALAL
6	TERRACOTTA CLADDING TILES	HUNTER DOUGLAS, CLAYTON, MOEDING, UNISTONE
7	AAC BLOCKS	ACC, TATA TISCOBUILD, ULTRATECH, BIRLA AEROCON, FERROUS CRETE.
<u>D</u>	<u>DOOR, WINDOW, WOOD WORK, PVC WORK, JOINERIES</u>	
1	FACTORY HOT PRESSED LAMINATED/FACTORY VENEERED POLISHED DOOR	GREEN (GREEN DOORS), DURO (TOWER DOORS), CENTURY (CENTURY DOORS PRO), GREENLAM/ GREENPANEL (GREENPANEL DOORS- PINE FILLERS), JET.
2	FLUSH DOOR SHUTTERS- (BLOCKBOARD CONSTRUCTON)	GREEN (GREEN DOORS), DURO (TOWER DOORS), CENTURY (CENTURY DOORS PRO), GREENLAM/ GREENPANEL (GREENPANEL DOORS- PINE FILLERS),

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		JET, JAIN DOORS PVT LTD.
3	LVL FLUSH/PANEL DOOR SHUTTERS & FRAMES	DURO, CENTURY, GREEN/GREENLAM/GREENPANEL, JAIN DOORS PVT LTD.
4	VENEERED/LAMINATED PARTICLE BOARD/MDF/HDF/HDHMR BOARD	GREEN/GREENLAM/GREENPANEL, CENTURY, ACTION TESA, CROSSBOND, JET, JAIN DOORS PVT LTD.
5	BLOCK BOARD, PLYWOOD (PINE BOARD)	GREEN, DURO, CENTURY, ORION, JAIN DOOR PVT LTD.
6	LAMINATE/HPL/COMPACT LAMINATE	EURO DÉCOR, GREENLAM, CENTURY, MERINO, VIRGO, JAIN DOOR PVT LTD, AMULYA MICA.
7	VENEER PLY/TEAK PLY	EURO DÉCOR, CENTURY, DURO, GREEN PANEL, JAIN DOOR PVT LTD.
8	SS 304/316, BRASS HARDWARE/ FITTINGS/ JOINERIES FOR DOOR WINDOWS, WARDROBES	DORMA, HAFELE, OZONE, GODREJ, KICH, PRAYAG, AUTOINGRESS.
9	HYDRAULIC DOOR CLOSER &, FLOOR SPRING	DORMA, HAFELE, YALE, OZONE, KICH, AUTOINGRESS,
10	WOOD ADHESIVE	FEVICOL, 3M, SIKA
11	LOOKING MIRROR	ATUL, MODIGUARD, GOLDEN FISH, SAINT GOBAIN
12	TOILET CUBICLES	GREENLAM, FUNDERMAX, DORMA, MERINO
13	ACRYLIC SOLID SURFACE	LG HI-MACS, DUPONT CORION, NEONNEX, LUXOR (DURLAX)
14	PVC -BOARDS & SHUTTERS	RAJSHRI, SINTEX, JAIN DOOR PVT LTD, AVSL, AMULYA MICA.
15	WPC-BOARD, JALI, DOOR FRAMES & SHUTTERS	AVSL, AMULYA MICA.
16	UPVC- DOORS & WINDOWS	ENCRAFT, FENSTA, KOMERLING, REHEAN, VEKA, DURAPLAST, ALUPLAST, SAINTGOBIN, OKOTECH, PABROS, SIMTA ASTRIX.
17	WOODEN/METAL/GLAZED/ACOUSTIC FIRE RATED DOOR FRAMES, SHUTTERS AND ACCESSORIES	GODREJ, PROMAT, NAVAIR, PACIFIC, BHAWANI FIRE, JAIN DOOR PVT LTD, INDIAN FIRE.
<u>E</u>	<u>FLOORING</u>	
1	VITRIFIED TILES/ GLAZED CERAMIC TILES	KAJARIA (Eternity), JOHNSON, RESTILE, SOMANY, HINDWARE, ORIENT BELL
2	COMPOSITE MARBLE/QUARTZ STONE	JOHNSON, NITCO, KALINGA
3	CC CHEQUERED/TACTILE TILES	JOHNSON, RESTILE, KAJARIA, EUROCON, UNISTONE
4	TILE ADHESIVE, EPOXY/CEMENTITIOUS TILE GROUT	ARDEX ENDURA, WEBER, MYK LATICRETE, UNITED, DON, FERROUS CRETE, JK MAXX, SAKARNI.
5	POLYSULPHIDE SEALANT	BASF, FOSROC, SIKA, MAPEI, ARDEX ENDURA, PIDILITE
6	WOODEN FLOORING	ARMSTRONG, PERGO, MIKASA (GREENLAM), PARADOR (HIL), JUNCKERS, VISTA
7	FLOOR HARDENER	IRONITE, FERROK, HARDONATE, FERROUS CRETE.
8	EXPENSION JOINTS	CONSTRUCTION SPECIALTIES HERCULES, CAMEOINC, BIZZAR, VR ENGINEERS.
<u>F</u>	<u>ROOFING</u>	
1	CALCIUM SILICATE TILES/BOARD FALSE CEILING & FRAMING	AEROLITE, SAINT GOBAIN, HILUX, USG BORAL, BSR CALSI CEILINGS.
2	MINERAL FIBRE/ GRG FALSE CEILING	ARMSTRONG, GYPROC, AEROLITE, USG BORAL, GYPTECH, BOLLARD, BSR CALSI CEILINGS.
3	TUBULAR & METAL FALSE CEILING SYSTEM	HUNTER DUGLUS, ARMSTRONG, LINDNER, CREDENCE, HI-STEEL, GYPTECH, MCRA., MCRA, ROYAL KRFT, BOLLARD, WESTERN, BSR CALSI CEILINGS.
4	GYMSUM- FALSE CEILING, BOARD, PARTITION, TILES	GYPROC, LAFARAGE, INDIA GYPSUM, USG BORAL, HI-STEEL. GYPTECH, SAKARNI, RITE, WESTERN.
5	CEMENT FIBRE BOARDS	EVEREST, BRILA AEROCON, VISHAKHA, CENTURY (ZYKRON), SAINT GOBAIN.
6	TENSILE FABRIC	BLUE STONE, ENCON, STRUCTURE FLEX, SAINT GOBAIN
7	PUF PANEL	LLOYD, JINDAL, TATA
8	POLYCARBONATE SHEET	GE PLASTIC, LEXAN, MG POLYPLAST.
9	PROFILE STEEL SHEET (PRECOATED)	EZYDECK of TATA, LLYOD SUPERDECK, JSW JINDAL, APL APOLLO.

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10	ACOUSTICAL FALSE CEILING & PANELLING	ARMSTRONG, HIMALYAN, GETTONE, GYPTECH, BOLLARD, RITE.
G	<u>FINISHING & FURNISHING</u>	
1	WATER-PROOF CEMENT PAINT	SNOWCEM, ASIAN, ICI.
2	SYNTHETIC ENAMEL PAINT	ASIAN (APCOLITE PREMIUM GLOSS/SATIN ENAMEL), ICI (DULUX GLOSS/SATIN), KANSAI NEROLAC (SYNTHETIC ENAMEL HI GLOSS/SATIN ENAMEL SMOOTH FINISH)
3	PLASTIC/PREMIUM EMULSION PAINT	ICI (DULUX VELVET TOUCH/ DULUX SUPERCLEAN), NEROLAC (BEAUTY GOLD), ASIAN PAINTS (ROYALE LUXURY EMULSION/ROYALE MATT)
4	OIL BOUND DISTEMPER/ACRYLIC WASHABLE DISTEMPER	ASIAN PAINTS (TRACTOR EMULSION), ICI (DULUX PROMISE INTERIOR), NEROLAC (IMPRESSIONS ECOCLEAN/ IMPRESSIONS IDEAZ), JK MAXX (JUMBO).
5	EPOXY/PU PAINT	ASIAN, ICI, KANSAI NEROLAC
6	TEXTURED EXTERIOR PAINT	ASIAN PAINTS (APEX WITH HONEYCOMB ROLLER FINISH) ICI (WEATHER SHIELD WITH HONEYCOMB ROLLER FINISH, KANSAI NEROLAC (EXCEL WITH HONEYCOMB ROLLER FINISH), JK MAXX (PATTERNZ)
7	EXTERIOR EMULSION/PAINT	ASIAN (ULTIMA PROTEK), ICI (DULUX WEATHERSHIELD MAX), NEROLAC (EXCEL TOTAL) JK MAXX (ULTRA).
8	STEEL PRIMER/ WOOD PRIMER/WALL PRIMER	BERGER, NEROLAC, ASIAN, ICI, BRITISH, MAKPHALT, JK MAXX.
9	EXTERIOR WATERPROOFING PAINT	ASIAN, ICI, NEROLAC.
10	ANTI BACTERIAL PAINT	ICI, ASIAN, BERGER.
11	MELAMINE & PU POLISH	ASIAN, ICI, NEROLAC, BERGER
12	GYPSON PLASTER	GYPROC (ELITE-90), ULTRA TECH, USG BORAL, BIRLA WHITE, FERROUS CRETE, SAKARNI.
13	READY MIXED PLASTER	FOSROC, SIKKA, PIDILITE, FERROUS CRETE.
14	WALL PUTTY	JK, BIRLA, ASIAN, SAKARNI, BERGER, FERROUS CRETE, UNITED, WESTERN.
15	POWDER COATING	AKZO NOBEL, JOTUN, ASIAN PPG, NIPPON.
16	BITUMASTIC PAINT	BERGER, SHALIMAR, NEROLAC, ASIAN.
17	FIRE PAINT	ASIAN PAINTS, AKZO NOBEL COATINS INDIA LTD, PROMAT, JOTUN.
18	PLASTER OF PARIS (POP)	GYPROC, ULTRATECH, BIRLA, TRIMURTI, SAKARNI.
19	WINDOW- BLINDS & TRACKS, ROLLER, CURTAINS	VISTA, MAC, MARVEL, SSG, DECK, HUNTER DOUGLAS.
H	<u>ROADWORK</u>	
1	CC/SFRC PRECAST DRAIN COVER/KERB STONE/CHANNEL	KK, NITCO, DALAL TILES, CHELSEA, PAVECON, KJS CONCRETE, UNISTONE.
2	CC PAVERS/ GRASS PAVER	NITCO, UNISTONE, ULTRA TILES, KJS CONCRETE, PAVECON, CHELSEA.
3	THERMOPLASTIC PAINT/ROAD MARKING PAINT	NEROLAC, ASIAN, SHALIMAR, BERGER, STP LTD.
I	<u>WATER SUPPLY & FITTINGS</u>	
1	C.P. BRASS FAUCETS, FITTINGS FOR TOILETS I/C WELLNESS PRODUCTS AND ACCESSORIES LIKE TOWEL ROD, TOILET PAPER HOLDER, ROB HOOK, SOAP DISH HOLDER, LIQUID SOAP CONTAINER ETC.	JAQUAR, KOHLER, GROHE, ROCA, SOMANY, PRAYAG, PLUMBER, BLUES, TOYO.
2	PTMT FITTINGS	PRAYAG, POLYTUF, PRIMA, SUPREME.
3	S.S. PIPES & FITTINGS	JINDAL, VIEGA, AQUINOX INDIA.
4	G.I. PIPES	TATA, JINDAL HISAR, SAIL, PRAKASH SURYA, APL APOLLO, VPL INDIA.
5	G.I. PIPE FITTINGS	UNIK, ICS, KS, ZOLOTO.
6	D.I. PIPES & FITTINGS	KESORAM, ELECTROSTEEL, TATA, JINDAL, KAPILANSH.
7	BRASS/GUNMETAL- ALL/GATE/GLOBE/ NRV/FOOT/PRV- VALVES	LEADER, SANT, ZOLOTO, KIRLOSKAR.

8	CI-BUTTERFLY/SLUICE/NRV/FOOT/AIR RELEASE-VALVES	LEADER, SANT, ZOLOTO, KIRLOSKAR.
9	FLOAT VALVE (BALL TYPE)	PRAYAG, LEADER, ZOLOTO, IBP, ARCO.
10	Y TYPE STRAINER	EMERALD, SANT, ZOLOTO, LEADER
11	FORGED STEEL FITTINGS/FLANGES	JOHNSON, VS FORGE, JK FORGING, TRUE FORGE, INDUS, MEC (JAINSONS)
12	PIPE HANGERS/SUPPORTS/CLAMPS	HILTI, FISCHER, WUERTH, EUROCLAMP, GMGR, NECO, EASYFLEX
13	MS PIPES	JINDAL HISAR, TATA, SURYA, APL APOLLO, VPL INDIA.
14	C.I./D.I. MANHOLES COVERS, GRATINGS	BIC, RIF, NECO, ACO, SKF
15	PVC WATER STORAGE TANKS	SINTEX, SHEETAL, SUPREME, POLYPLAST, PRAYAG, PRINCE.
16	PVC PERFORATED PIPES	REX POLYEXTRUSION, SUPREME, AKASH, ZENPLAS.
17	CPVC PIPES & FITTINGS	ASHIRWAD, FINOLEX, SUPREME, ASTRAL, PRAYAG, AJAY PIPE, FUSION, VPL INDIA, AKG, PRINCE.
18.	UPVC PIPES & FITTINGS	ASHIRWAD, FINOLEX, SUPREME, ASTRAL, PRAYAG, AJAY PIPE, FUSION, VPL INDIA, AKG, PRINCE.
<u>J</u>	<u>SANITARY INSTALLATIONS</u>	
1	VITREOUS CHINA SANITARYWARE	KOHLER, CERA, JAQUAR, HINDWARE (ITALIAN), SOMANY, PLUMBER, TOYO.
2	CENTRIFUGAL CAST (SPUN) IRON (S&S) / HUBLESS PIPES AND FITTINGS	SKF, NECO, BIC, SAINT GOBAIN.
3	CENTRIFUGALLY CAST (SPUN) IRON PIPES (CLASS LA)	ELECTROSTEEL, NECO, BIC.
4	C.P. BOTTLE TRAPS	CAMRY, JAQUAR, ROCA, KOHLER.
5	CP BRASS SPREADER, WASTE COUPLING	CAMRY, JAQUAR, ROCA, KOHLER.
6	SS/CP BRASS ANTI COCKROACH TRAP/GRATING FOR DRAINAGE PIPES	VIKING, JAYNA, CHILLIS, KICH.
7	STONEWARE PIPES & GULLY TRAPS	PERFECT, TAYA, PARRY, ANAND, HIND.
8	RCC PIPES	LAKSHMI, SOOD & SOOD, JAIN & CO, PRAGATI CONCRETE, KK, USHA, DIWAN SPUN PIPE.
9	CI/PLASTIC ENCAPSULATED/PLAIN FOOT REST	KK INDIA, KGM, ACCURATE BUILDCON, NECO.
10.	SS SINK	KINGSTON-KOBRA, NIRALLI, JAYNAM, PRAYAG.
<u>K</u>	<u>ALUMINIUM</u>	
1	ALUMINIUM HARDWARE FITTINGS FOR ALUMINIUM WINDOWS & DOORS	ALUALPHA, GEZE, ROTO, DR HANN, SECURISTYLE, SCHUCO.
2	ALUMINIUM EXTRUDED SECTIONS FOR DOORS & WINDOWS ETC.	JINDAL, HINDALCO, BHORUKA, PABROS.
3	EPDM GASKET	HANU, ANAND, ALP, MONA.
4	SILICON GASKET	KICH, HAFELE, JAQUAR, GODREJ, SAINT GOBAIN.
5	FLOAT GLASS	MODIGUARD, SAINT GOBAIN, SCHOTT, ASAHI.
6	MASKING TAPE	3M, SUN, WONDER POLYMER.
7	REFLECTIVE GLASS	SAINT GOBAIN, ASAHI (INDIA), PILKINGTON, GUARDIAN.
8	ADHESIVE TAPE/STRUCTURAL SEALANT TAPE	NORTON, 3M, PENTA GUN.
9	SILICON SEALANT	GE MOMENTIVE, DOW CORNING, WACKER, MAPEI, MC-BAUCHEMIE.
10	ALUMINIUM COMPOSITE PANEL	ALUCOBOND, ALUBOND, ALUDECOR, VIRGO PRODUCT, ALUTECH, CROSSBOND, EUROBOND.
11	ROCK WOOL/GLASS WOOL	U.P TWIGA, ROCK WOOL INDIA LTD., LLYOD LTD., ROXUL ROCKWOOL INDIA.
<u>L</u>	<u>WATER PROOFING PRODUCTS, SEALANTS & GROUTS</u>	
1	PVC WATER STOP/ SWELLABLE WATER BAR	SIKA, FOSROC, PENETRON, BASF.
2	PU/EPOXY/CEMENTITIOUS GROUTING COMPOUND	LATICRETE, WEBER, MAPEI, SIKA, FOSROC, MAKPHALT.
3	HIGH PERFORMANCE EPOXY BASED RESIN ANCHOR SYSTEM	FOSROC, WURTH, FISHER, HILTI.
4	EPOXY MORTAR/PUTTY	FOSROC, SIKA, BASF, LATICRETE, MAPEI, ARDEX

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5	SOLVENT BASED SILICONE REPELLENT COATING	FAIRMATE, WACKER, WEBER, LATICRETE, MAPEI.
6	CRYSTALLINE WATER PROFFING COMPOUND	XYPEX, PENETRON, KRYTON, DON, MAKPHALT
7	PU/EPOXY SEALANT FOR CRACKS	SIKA, FOSROC, BASF, LATICRETE, WEBER, DON MAKPHALT, .
8.	INTEGRAL CRYSTALLINE WATER PROFFING COMPOUND	PENETRON, ZYPEXX, STERLING TECHNOTRADE, XYPEX, HYGIE, SPANOTECH, MAKPHALT.
9.	CRYSTALLINE WATER PROFFING COATING	PENETRON, ZYPEXX, STERLING TECHNOTRADE, XYPEX, HYGIE, SPANOTECH, TECHNINICOL MAKPHALT.
10.	HIGH STRENGTH CRYSTALLINE MORTAR	PENETRON, ZYPEXX, STERLING TECHNOTRADE, XYPEX, HYGIE, SPANOTECH.
11.	WATER PROOFING MEMBRANE: SELF-ADHESIVE & (HDPE), PVC MEMBRANE.	FOSROC, ZYPEXX, HYGIE, MAPEI, STERLING TECHNOTRADE, PIDILITE, SPANOTECH, TECHNINICOL, MAKPHALT.
12.	SINGLE/DOUBLE COMPONENT LIQUID PU ELASTOMERIC MEMBRANE.	FOSROC, ZYPEXX, HYGIE, MAPEI, STERLING TECHNOTRADE, PIDILITE, SPANOTECH, TECHNINICOL.
13.	POLYMER MODIFIED CEMENTITIOUS GOUT.	FOSROC, ZYPEXX, HYGIE, PIDILITE, SIKA, STERLING TECHNOTRADE, TECHNINICOL.
14.	SILICON SEALANTS.	WACKER, ZYPEXX, MAPEI, SPANATECH, PIDILITE.

Note:-

Makes other than specified above (if necessary) shall be approved by the **Executive Engineer, Noida Central Division, CPWD, with prior consent of CE/Ghaziabad.**

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

Executive Engineer, Noida
Central Division,
CPWD, I.P. Bhawan, New Delhi

<u>Schedule of Quantity</u>					
Name of work - Annual Repair & Maintenance for various Residential & Non-Residential Building of NIOS Headquarter & Regional Centre Delhi at A-24/25 & A-31, Sector- 62, Noida (U.P) during 2026-2027. (SH: Civil Work).					
S.No.	Description	Qty	Unit	Rate	Amount
	EARTH WORK:				
1	Supplying chemical emulsion in sealed containers including delivery as specified.				
1.1	Chlorpyriphos/ Lindane emulsifiable concentrate of 20%	75.00	litre	234.75	17606.00
2	Diluting and injecting chemical emulsion for POST-CONSTRUCTION anti-termite treatment (excluding the cost of chemical emulsion) :				
2.1	Treatment of existing masonry using chemical emulsion @ one litre per hole at 300 mm interval including drilling holes at 45 degree and plugging them with cement mortar 1:2 (1 cement : 2 coarse sand) to the full depth of the hole :				
2.1.1	With Chlorpyriphos/Lindane E.C. 20% with 1% concentration	288.00	metre	43.00	12384.00
2.2	Treatment at points of contact of wood work by chemical emulsion Chlorpyriphos/ Lindane (in oil or kerosene based solution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same.	156.00	metre	279.70	43633.00
	CONCRETE WORK :-				
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
3.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	8.00	cum	7878.50	63028.00
	MASONRY WORK :-				
4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
4.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	5.00	cum	9105.95	45530.00
	WOOD AND P.V.C. WORK:-				

5	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
5.1	Second class teak wood	1.106	Cum	142949.70	158102.00
6	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part 1) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
6.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	42.00	Sqm	3473.85	145902.00
7	Providing and fixing ISI marked oxidised M.S. sliding door bolts with nuts and screws etc. complete (Copper oxidised as per IS 1378)				
7.1	300x16 mm	100	each	216.55	21655.00
8	Providing and fixing ISI marked oxidised M.S. tower bolt black finish, (Barrel type) with necessary screws etc. complete (Copper oxidised as per IS 1378)				
8.1	250x10 mm	100	each	83.90	8390.00
8.2	150x10 mm	100	each	59.45	5945.00
9	Providing and fixing ISI marked oxidised M.S. handles conforming to IS:4992 with necessary screws etc. complete (Copper oxidised as per IS 1378)				
9.1	125 mm	200	each	39.95	7990.00
10	Providing and fixing bright finished brass handles with screws etc. complete:				
10.1	125 mm	75	each	256.65	19249.00
11	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	200	each	121.65	24330.00
12	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	80	each	1124.85	89988.00
13	Providing and fixing chromium plated brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	50	each	998.35	49918.00

14	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.				
14.1	Twin rubber stopper	200	each	72.35	14470.00
	STEEL WORK :				
15	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	300.00	kg	133.70	40110.00
16	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
16.1	Using M.S. angels 40x40x6 mm for diagonal braces	20.00	Sqm	5804.35	116087.00
17	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm ²), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.				
17.1	10 x 140 mm	120	each	182.20	21864.00
	FLOORING :-				
18	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.				
18.1	Size of Tile 600x600 mm	30.00	Sqm	1553.45	46604.00
19	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.				
19.1	Size of Tile 600x600 mm	8.00	Sqm	1623.05	12984.00

	ROOFING :-				
20	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.				
20.1	110 mm diameter	200.00	metre	377.40	75480.00
21	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
21.1	Bend 87.5°				
21.1.1	110 mm bend	70	each	150.35	10525.00
21.2	Shoe (Plain)				
21.2.1	110 mm Shoe	50	each	131.85	6593.00
22	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
22.1	110 mm	100	each	371.30	37130.00
	FINISHING:-				
23	12 mm cement plaster of mix :				
23.1	1:6 (1 cement: 6 coarse sand)	200.00	Sqm	343.65	68730.00
24	15 mm cement plaster on rough side of single or half brick wall of mix:				
24.1	1:6 (1 cement: 6 coarse sand)	200.00	Sqm	395.35	79070.00
25	6 mm cement plaster of mix :				
25.1	1:3 (1 cement : 3 fine sand)	75.00	Sqm	300.45	22534.00
26	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	60.00	Sqm	87.10	5226.00
27	Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gram/litre, of approved manufacturer and of required shade and colour all complete to achieve even shade and colour :				
27.1	New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre	500.00	Sqm	185.65	92825.00
28	Finishing walls with Acrylic Smooth exterior paint of required shade :				

28.1	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm)	500.00	Sqm	160.60	80300.00
29	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
29.1	Two or more coats on new work	100.00	Sqm	155.90	15590.00
30	Polishing on wood work with ready mixed wax polish of approved brand and manufacture :				
30.1	New work	84.00	Sqm	197.65	16603.00
31	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	2000.00	Sqm	156.05	312100.00
32	Distempering with 1st quality acrylic distemper (ready mixed) having VOC (Volatile Organic Compound) content less than 50 gram/ litre, of approved brand and manufacturer including applying additional coats wherever required to achieve even shade and colour				
32.1	Old work (one or more coats)	1500.00	Sqm	62.70	94050.00
33	Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.				
33.1	One coat	4000.00	Sqm	92.00	368000.00
33.2	Two coats	5000.00	Sqm	137.45	687250.00
34	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				
34.1	With ready mixed pink or grey primer on wood work (hard and soft wood) having VOC content less than 50 grams/ litre	22.00	Sqm	70.35	1548.00
35	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	6000.00	Sqm	25.15	150900.00
36	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :				
36.1	One or more coats on old work	500.00	Sqm	102.80	51400.00
37	Finishing walls with Acrylic Smooth exterior paint of required shade :				
37.1	Old work (One or more coat applied @ 0.90 ltr/10 sqm).	800.00	Sqm	80.65	64520.00

	REPAIRS TO BUILDING:-				
38	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq.meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.				
38.1	With cement mortar 1:4 (1cement: 4 coarse sand)	80.00	Sqm	560.50	44840.00
39	Renewing glass panes, with putty and nails wherever necessary including racking out the old putty:				
39.1	Float glass panes of nominal thickness 4 mm (weight not less than 10kg/sqm)	40.00	Sqm	1090.65	43626.00
41	Cleaning of terrace/loft water storage tank (inside surface area) upto 2000 litre capacity at all heights with coconut brushes, duster etc., removal of silt, rubbish from the tank and cleaning the tank with fresh water disinfecting with bleaching powder @ 0.5gm per litre capacity of tank including marking the date of cleaning on the side of tank body with the help of tencil and paint and disposing of malba all complete as per direction of Engineerin-Charge. (The old date already written on tank should be removed with paint remover or black paint and if date is not written with the stencil or old date is not removed deduction will be made @ Rs. 0.10 per litre) (if during cleaning any GI fittings or ball cock is damaged that is to be repaired by contractor at his own cost and nothing extra will be paid on this account)	50000.00	litre	0.50	25000.00
42	Cleaning and desilting of gully trap chamber, including removal of rubbish mixed with earth etc. and disposal of same, all as per the direction of Engineer-in-charge.	75	each	108.30	8123.00
43	Cleaning of under ground sump, Over Head R.C.C. Tank (independent staging) including disposal of slit and rubbish, all as per direction of Engineer-in-Charge. The cleaning shall consist following operations:-				
	(i) Tank shall be e mptied of water by pumping & bottom shall be cleaned of silt and other deposits.				
	(ii) Entire surface area of the sump shall then scrubbed thoroughly with wire brush etc. and pressure washed with water.				
	(iii) Chlorination of RCC internal surface by liquid chlorine.				

	(iv) The treated surface shall be dried using air jetting and all loose particles shall be removal from the surface.				
	(v) Finally the surface shall be treated with ultraviolet radiation etc. as per direction of Engineer-in-Charge.	500.00	Sqm	84.85	42425.00
44	Disconnecting damaged overhead/terrace PVC water storage tank of any size from water supply line and removing from the terrace including shifting at ground level as per direction of Engineer-in-charge.	10	each	433.75	4338.00
	DISMANTLING AND DEMOLISHING:-				
45	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
45.1	Of area 3 sq. metres and below	40	each	367.20	14688.00
46	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.				
46.1	For thickness of tiles 10 mm to 25 mm	38.00	Sqm	73.40	2789.00
47	Dismantling C.I. or asbestos rain water pipe with fittings and clamps including stacking the material within 50 metres lead :				
47.1	100 mm dia pipe	100.00	metre	78.00	7800.00
48	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	475.00	Sqm	54.65	25959.00
49	Dismantling aluminium/ 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.	50.00	Sqm	56.35	2818.00
50	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	100.00	Cum	263.95	26395.00
	SANITARY INSTALLATIONS:-				
51	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
51.1	White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	25	each	1879.20	46980.00

52	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
52.1	Kitchen sink with drain board				
52.1.1	510x1040 mm bowl depth 250 mm	10	each	6945.60	69456.00
53	Providing and fixing 8 mm dia C.P. / S.S.. Jet with flexible tube upto 1 metre long with S.S.. triangular plate to European type W.C. of quality and make as approved by Engineer - in - charge.	100	each	349.15	34915.00
54	Providing and fixing P.V.C. low level flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete.				
54.1	10 litre capacity - White	50	each	1190.65	59533.00
55	Providing and fixing solid plastic seat with lid for pedestal type W.C. pan complete :				
55.1	White solid plastic seat with lid	50	each	684.85	34243.00
56	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	40	each	1607.95	64318.00
57	Providing and fixing soil, waste and vent pipes :				
57.1	100mm dia				
57.1.1	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	30.00	metre	1180.75	35423.00
58	Providing and filling the joints with spun yarn, cement slurry and cement mortar 1:2 (1 cement : 2 fine sand) in S.C.I./ C.I. Pipes :				
58.1	100 mm dia pipe	30	each	198.15	5945.00
59	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
59.1	100mm dia				
59.1.1	Sand cast iron S&S as per IS - 3989	10	each	705.20	7052.00
60	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
60.1	100x100x100 mm				
60.1.1	Sand cast iron S&S as per IS - 3989	10	each	925.70	9257.00
	WATER SUPPLY:-				

61	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply and all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall				
61.1	20 mm nominal dia Pipes	200.00	metre	335.00	67000.00
61.2	25 mm nominal dia Pipes	150.00	metre	401.55	60233.00
61.3	32 mm nominal dia Pipes	150.00	metre	518.75	77813.00
61.4	50 mm nominal dia Pipes	100.00	metre	934.15	93415.00
62	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings and fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.				
62.1	15 mm nominal dia Pipes	50.00	metre	497.80	24890.00
62.2	20 mm nominal dia Pipes	50.00	metre	537.60	26880.00
63	Providing and fixing unplasticised PVC connection pipe with brass unions :				
63.1	45 cm length				
63.1.1	15 mm nominal bore	200	each	97.75	19550.00
64	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
64.1	150 mm diameter	100	each	222.35	22235.00
65	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	4000.00	litre	11.00	44000.00
66	Providing and fixing C.P. brass bib cock of approved quality conforming to IS 18:8931				
66.1	15 mm nominal bore	150	each	506.80	76020.00
67	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
67.1	15 mm nominal bore	100	each	820.70	82070.00

68	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
68.1	15 mm nominal bore	100	each	670.45	67045.00
69	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
69.1	15 mm nominal bore	200	each	574.30	114860.00
70	Providing and fixing C.P. Brass extension nipple (size 15 mm x 50 mm) of approved make and quality as per direction of Engineer-in-charge.	100	each	74.80	7480.00
	DRAINAGE:				
71	Supplying and fixing C.I. cover without frame for manholes :				
71.1	455x610 mm rectangular C.I. cover (light duty) the weight of the cover to be not less than 23 kg	40	each	1358.00	54320.00
72	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
72.1	LD-2.5				
72.1.1	Rectangular shape 600x450 mm internal dimensions	40	each	1437.65	57506.00
	ALUMINIUM WORK:-				
73	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
73.1	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
73.1.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	75.00	kg	634.45	47584.00

74	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item)				
74.1	With float glass panes of 4.0 mm thickness (weight not less than 10kg/sqm)	50.00	Sqm	1176.80	58840.00
75	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineerin-charge.				
75.1	With stainless steel cover plate minimum 1.25 mm thickness	25	each	2823.85	70596.00
76	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.				
76.1	205 X 19 mm	100	each	344.30	34430.00
76.1	355 X19 mm	100	each	325.80	32580.00
77	Providing and fixing Brass 100 mm mortice latch and lock with 6 levers without pair of handles (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	50	each	528.85	26443.00
78	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & double acting hydraulic floor spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc.to be paid separately).	20.00	Sqm	5325.90	106518.00

79	Filling the gap in between aluminium/ stone/ wood frame and adjacent RCC/Brick/ Stone/ wood/ Ceramic/ Gypsum work by providing weather/structural non sag elastomeric PU sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete, complying to ASTM C920, DIN 18540-F & ISO 11600				
79.1	Upto 10 mm depth and 10 mm width	100.00	metre	200.95	20095.00
	NEW TECHNOLOGIES AND MATERIALS:				
80	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm 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 galvanised iron section of 0.33mmthick (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 secondaryintermediate cross-T of size 24x32 mm of length 600mm to formgrid module of size 600 x 600 mm, suspended from ceiling usinggalvanised 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 25x37x25x1.6mm thick with precut hole on both 25mm flange to pierce into 12x50mm or even bigger size dash fastener if require, fixed with Glavanised iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphey wall / partition with the help of plastic rawl plugs at 450mm center to center and 40 mm long dry wall S.S screws. The workshall be carried out as per specifications, drawing and as per directionsof the Engineer-in-Charge.				
80.1	With 15 mm thick Tegular edged light weight calcium slicate false ceiling tiles	50.00	Sqm	2207.00	110350.00

81	Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge.				
81.1	50 mm average thickness	30.00	Sqm	256.35	7691.00
81.2	25 mm average thickness	50.00	Sqm	126.75	6338.00
82	Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer-In-charge complete in all respect.				
82.1	SBR Polymer (@10% of cement weight) modified cementitious bond coat @ 2.2 kg cement per sqm of surface area mixed with specified proportion of approved polymer	80.00	Sqm	141.20	11296.00
83	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and/or the 75 mm size cube crushing strength at the end of 28 days to be not less than 30 N/Sqmm2).				
83.1	25 mm average thickness in 2 layers.	50.00	Sqm	587.35	29368.00
83.2	50 mm average thickness in 3 layers.	30.00	Sqm	1174.70	35241.00
84	Dismantling of Wash basin/sink of all types including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	40	each	112.05	4482.00
	Cost of DSR Items				5319235.00
	Modified Cost of DSR Item(Correction factor @ 0.973)				5175616.00
	Add Cost Index @ 5%				258781.00
	Total of (A)		Cost of DSR Items		5434397.00
	NON SCHEDULE ITEMS:				

85	Day to Day Maintenance of plumbing & sanitary system of entire area by engaging professional Plumber for repairing, stopping leakages or over flows of water from PVC / RCC overhead tanks, cisterns, leakage of floor trap, WC joints of pipe and fittings, replacement of GI pipes, fittings and fixtures ball cock brass tap phases of bib cock, stop cock & pillar cock internal fitting of flushing system, floor trap, SCI pipe and its fitting etc. to keep the entire water supply system / sanitary system efficient and functional to the entire satisfaction and as per direction of the Engineer-in-charge (Rate inclusive of M-seal, solvent, teflon tape, safeda sutedhaga etc. and T & P like pipe wrench, pipe cutter pipe vice, pipe die, files pillar, caulking tools pressure pump, grinding machine hammer and other related tools as required.	312.00	per day	1313.35	409765.00
86	Day to Day Maintenance of existing wooden / PVC / MS doors & windows and its fixtures by engaging professional Carpenter for repairing and re-fixing / fixing of damaged doors. Windows, ventilators of steel/ wood / PVC etc. adjustment / setting of mortice lock , fixing of glass panes, replacement of fittings, fixing of looking mirrors and all other carpentry / glazier works required to keep them in proper functional conditions at all floors to the entire satisfaction and as per direction of the Engineer-in-charge and T & P like drilling machine, electric operated (Ordinary as well as hammer drilling) Planer, saw, screw driver, hammer, chisel, try square, tape, scrubbing knife, marking gauge and glass cutting knife and all other related tools as required. (screw, nuts, putty, wood powder, fevicol, adhesive etc are included).	312.00	per day	1313.35	409765.00
87	Providing services of Beldar / Helper with all required tools and safety equipments like helmet. safety belt etc. on all working days except Sundays & National Holidays as per the direction of Engineer-in-charge. The rate is inclusive of necessary tools, Trolley/Rickshaw/tasla/spade/pickaxe/ladder etc. safety equipments & uniform etc. and nothing extra shall be paid on this account.	312.00	per day	1187.40	370469.00

88	Day to Day Maintenance of sewerage system. drainage system and desilting of gully traps etc. by engaging professional Sewerman for opening /cleaning of chocked sewer pipes, drains. manholes, gully traps. water closet, wash basins. floor traps etc. at all floors and vertical stacks of services of all sizes to keep sewerage and drainage system functional including disposal of silt, malba, waste, garbage etc. to the authorized dumping ground within the jurisdiction of Sub- Division complete to the entire satisfaction and as per the direction of Engineer-in-Charge (Rate inclusive of cost of all labours, materials like disinfectant, acid, vim, soap, scrubber etc. and T&P like pump pusher rod, brushes for cleaning. iron rod. gumboots. hand gloves, bamboo khapachi, broom sticks, brooms (soft & hard), wiper. basket or bucket for dust and waste collection. safety tools and other related tools required. (Note: Apart from this, all above mentioned services to be done on quarterly basis as a special drive of the entire uniform area and as an when required / directed by the Engineer-in-charge. Nothing extra shall be paid on this account).	36.00	per day	1171.40	42170.00
89	Day to Day maintenance & repair of internal & external plaster in patches upto and area of 2.5 sqm i/c flooring masonry work. pointing on roof tiles. CC gola. Ceiling of leakages from roof, floor traps, WC/P Traps & Joints of pipes & Fittings. Gali Traps & Manholes & restoration of existing in the affected area to the original finishing level as far as possible by engaging professional Mason for repairing works etc including necessary cement, sand, aggregate as per site requirement. It includes T&P such as trowel, try-square. plumb, tape. hammer, tile marbie cutting machine, grinding machine and all other related tools as required. Note: Repairing patches upto 2.50 sqm area is only included.	24.00	per day	1313.35	31520.00

90	Providing services of Welder with helper and portable welding machine (with electricity cable and welding rods) for attending complaints of welding work i.e repairing of iron gates, grills, steel doors, windows, ventilators and shutters and all other welding repairing works required at site and fixing new steel sections wherever required etc. all complete i/c required necessary T&P as per direction of Engineer-in-charge. The payment shall be made for satisfactorily works done per day at site of work. The welder shall be provided as and when required at site. The rate is inclusive of wages of welder and helper, hire charging of welding machine with electricity cable including transportation to site, cost of welding rods, required T & P etc. all and nothing extra shall be paid on this account. However, the electricity connection shall be provided by the department free of cost at site of work (Steel sections, if required, shall be paid for separately).	12.00	per day	2378.20	28538.00
91	Providing and fixing Stainless Steel Door Handle H-Type (2.5diaX32.5cm) (25diaX 325 mm) (Godrej, dorset, Ozone, Hafele as approved by Engineer-charge.) with necessary screws etc. complete as per direction of Engineer-charge.	25	each	1868.90	46723.00
92	Providing and fixing Superior quality CP brass Single Lever Basin Mixer without POP up waste with 450mm long barided houses (of superior make like Jaquar, kohler, Grohe, Roca as approved by Engineer-in-charge) complete as per direction of Engineer in charge.	50	each	5989.65	299483.00
93	Providing and fixing Superior quality Hand Shower (Health faucet) with 8 mm dia, 1m long flexible tube & Wall hook (of superior make like Jaquar, kohler, Grohe, Roca as approved by Engineer-in-charge) complete as per direction of Engineer in charge.	80	each	1770.80	141664.00
94	Providing and fixing u-PVC Pipe (of make Supreme, Prayag, Astral, Finolex as approved by Engineer-in-charge) Type - B (working pressure 5-6kg/cm ²) including join with adhesive and including all fittings like Nahani Trap, couplers, bends & tees with or without access door, clamp & vent cowl etc. complete in all respect as per direction of engineering In-charge. (i) Single socketed pipes.				
94.1	75 mm diameter	150.00	metre	495.00	74250.00
94.2	110 mm diameter	200.00	metre	710.00	142000.00

95	Providing and Fixing CPVC Ball valve butterfly handle of approved make complete as per direction of Engineer-in- charge.				
95.1	20 mm nominal bore	50	each	222.85	11143.00
96	Providing and Fixing CPVC Ball valve butterfly handle of approved make complete as per direction of Engineer-in- charge.				
96.1	25 mm nominal bore	50	each	355.75	17788.00
97	Providing and Fixing CPVC Ball valve butterfly handle of approved make complete as per direction of Engineer-in- charge.				
97.1	32 mm nominal bore	40	each	567.55	22702.00
98	Providing and fixing Superior quality CP brass bottle trap 32 mm size with 300 mm & 190 mm long wall connection pipes & wall flange (of superior make like Jaquar, kohler, Grohe, Roca as approved by Engineer-in-charge) for wash basin and sink complete as per direction of Engineer in charge.	40	each	2128.25	85130.00
99	Providing and fixing Superior quality Corner glass shelf (with bracket) (of superior make like Jaquar, kohler, Grohe, Roca as approved by Engineer-in-charge) fixed with 40 mm long screws, rawl plug etc., complete as per direction of Engineer in charge.	20	each	1640.65	32813.00
100	Credit for dismantled unserviceable G.I./M.S./S.C.I sections material received from dismantling which shall be the property of contractor and shall be handed over to him after duly measured/ weighed for disposal at his own level (Nothing extra shall be paid on account of dismantling etc.)	500.00	kg	-25.00	-12500.00
	Total of (B)			Cost of NS Items	2153423.00
	Total of (A+B)				7587820.00

Executive Engineer
Noida Division, CPWD