INDEX

Name of work: - **1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27.**

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Certified that this NIT contains Page 1 to 72 (Including this page).

NIT approved for Rs. 79,42,647/- (Rupees: Seventy-Nine Lakh Forty-Two Thousand Six Hundred Forty-Seven Only).

Assistant Engineer (P)
Ghaziabad Division-1,
C.P.W.D,
Air Force Station, Hindan
Ghaziabad.

Executive Engineer,
Ghaziabad Division-1,
C.P.W.D,
Air Force Station, Hindan
Ghaziabad.

Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE

PRESS NOTICE (E-TENDERING)

The **Executive Engineer, Ghaziabad Division-1, CPWD, Ghaziabad** invites on behalf of the President of India, on line **Percentage Rate Tender** from approved and eligible contractors in appropriate class of CPWD by e-tendering process for the following work:

NIT No:	**105/EE/GD-1/2026-27**
Name of work	**1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27.**
Estimated Cost	**Rs. 79,42,647/-**
Earnest Money	**Rs. 1,58,853/-**
Period of Completion	**03 (Three) Months**
Last date and time of submission of bid	**On 03.11.2026 upto 15:00 Hr.**

The bid forms and other details can be obtained from the website http://etender.cpwd.gov.in Press Notice is also available on (URL **http://etender.cpwd.gov.in**).

Note: Not to be printed below this line.

Assistant Engineer (P)
Ghaziabad Division-1,
C.P.W.D,
Air Force Station, Hindan
Ghaziabad.

Executive Engineer,
Ghaziabad Division-1,
C.P.W.D,
Air Force Station, Hindan
Ghaziabad.

Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e- TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE

1. Information and instructions for Contractors will form part of NIT and to be uploaded on ITI website.

2. The intending bidder must have class-III digital signature to submit the bid.

3. The Contractor can deposit **original EMD either in the office of tender inviting division or division office of any Executive Engineer, CPWD within the period of submission**. The contractor shall obtain the receipt of EMD form the concern Executive Engineer **(including NIT issuing EE/AE)** in the prescribed format uploaded by this division. The bid document as uploaded can be viewed and downloaded free of cost by anyone including intending bidder. But the bid can only be submitted after uploading the mandatory scanned documents such as **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank** towards EMD in favor of EE, GCD, CPWD, Ghaziabad, copy of receipt of original EMD and other documents specified in the press notice.

Earnest Money can be paid in the form of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank** (drawn in favour of EE, GCD, CPWD, Ghaziabad along with bank guarantee of any scheduled bank wherever applicable shall be scanned and uploaded to e-Tendering website within the period of bid submission.

The original EMD should be deposited either in the office of tender inviting division or division office of any Executive Engineer, CPWD within the period of submission. **The EMD receiving Executive engineer shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format uploaded by this division.**

This receipt shall also be uploaded to the e-tendering website by the intending bidder upto specified 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 scheduled bank having validity for six months or more from the last date of receipt of bid which is to be scanned and uploaded by the intending bidders.

4. Information and instructions for Contractors for e-tendering inviting **open bids** is enclosed as **Annexure - 20A.13.1.**

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

6. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.

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

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

9. It is mandatory to fill details / upload scanned copies of all the documents **such as** Goods and Services Tax registration as stipulated in the bid document including the copy of receipt for deposition of original EMD. If such document is not uploaded his bid will become invalid.

10. If the contractor is found ineligible after opening of bids, his bid shall become invalid e-tendering processing fee shall not be refunded.

11. 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 the bid shall become invalid and e-tendering processing fee shall not be refunded.

12. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in pink colour and the moment rate is entered, it turns sky blue.

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

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

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.

ANNEXURE 20A.13.1

(Amended as per DG/MAN/312 Dated 04-07-2014)

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING FORMING PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE (Applicable for inviting open bids)

The **Executive Engineer, Ghaziabad Division-1, CPWD, Ghaziabad** invites on behalf of the President of India, on line **Percentage Rate Tender** from approved and eligible contractors in appropriate class of CPWD by e-tendering process for the following work:

S. No.	NIT No.	Name of work & Location	Estimated Cost put to bid	Earnest Money	Stipulated Period of Completion of work	Last date of online submission of bid, copy of receipt of deposition of original EMD and other documents as specified in the bid documents	Date & Time of opening of Bid
1	2	3	4	5	6	7	8
1	**105/EE/GD-1/2026-27**	**1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27..**	**Rs. 79,42,647/-**	**Rs. 1,58,853/-**	**03 (Three) Months**	Up to 15:00 Hr. On **03.11.2026**	At 15:30 Hr. On **03.11.2026**

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

2. Information and Instructions for bidders posted on website shall form part of bid document.

3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website **http://etender.cpwd.gov.in or www.cpwd.gov.in** free of cost.

4. But the bid can only be submitted **after depositing original EMD either in the office of tender inviting division 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, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank** towards EMD in favour of the EE, GCD, CPWD, Ghaziabad as mentioned in NIT **receipt**

for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/AE) CPWD and other documents as specified.

5. 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 bid opening process. After opening of bids, he will receive the competitor bid sheets.

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

9. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in **pink** colour and the moment rate is entered; it turns **sky blue**.

In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).
However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in Percentage Rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

10. List of documents to be scanned and uploaded within the period of bid submission.

i. Copy of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank** against EMD.

ii. Copy of receipt for deposition of Original EMD to division office of any Executive Engineer, CPWD i/c Division inviting tender.

iii. Enlistment order of contractor.

iv Certificate of ERP Training.

v. 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.

(Note: 1: The Contractor/Agency participating in the Tender shall ensure the uploading of above mandatory documents in eligibility documents/additional documents portal so that the same can be free viewed & examined before opening the part of their financial bid).

ANNEXURE - 20A.14

FORMAT FOR RECEIPT OF DEPOSITION OF ORIGINAL EMD

Receipt of deposition of original EMD

(Receipt No……. /Date……)

1. Name of work**: 1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27..**
2. NIT No: **105/EE/GD-1/2026-27**
3. Estimated Cost**: Rs. 79,42,647/-**
4. Amount of Earnest Money Deposit: **Rs. 1,58,853/-**
5. Last date of submission of bid: on **03.11.2026** Upto 15:00 Hours

1. Name of contractor: ……..……
   ……..……#
2. Form of EMD: ……..……
   ……..……..……..……#
3. Amount of Earnest Money deposit: …… #
4. Date of submission of EMD: ……*……..…… #

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

(# to be filled by EMD receiving EE)

Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE

ANNEXURE - 20A.12

CPWD-6 FOR e-tendering

1. **Online Percentage Rate tenders** are invited on behalf of President of India from approved and eligible contractors of CPWD for the work of **"1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27.."**

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

1.1 The work is estimated to cost **Rs 79,42,647/-.** This estimate, however, is given merely as a rough guide.

2. Agreement shall be drawn with the successful bidders on prescribed **Form No. CPWD 7** (or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website **www.cpwd.gov.in**. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

3. The time allowed for carrying out the work will be **03 (Three) Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

4. (i) The site for the work is available.

~~(ii) The architectural and structural drawings for the work are available.~~

~~**OR**~~

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

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 **http://etender.cpwd.gov.in or www.cpwd.gov.in** in free of cost.

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

7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.

8. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.

9. Earnest Money in the **form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank** (drawn in favour of EE, GCD, CPWD, Ghaziabad shall be scanned and uploaded to the e-tendering website with the period of bid submission. The original EMD should be deposited either in the office of tender inviting division 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 this division 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 lakhs, whichever is less, shall have to be deposited in shape prescribed above and balance may be deposited in shape of Bank Guarantee of any scheduled bank having validity for six months or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidder.

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 with in 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 with physical EMD of the scanned copy of EMD uploaded within a week physically in the office of tendering 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.

9A. The Contractors registered prior to 01.04.2015 on e-tendering portal of CPWD shall have to deposit tender processing fee at existing rates, or they have option to switch over to the new registration system without tender processing fee any time.

The bid submitted shall be opened at **15:30 Hours on 03.11.2026**

10. The bid submitted shall become invalid and e tender processing fee shall not be refunded if:

(i) The bidder is found ineligible.

(ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.

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

(iv) If a tenderer quotes nil rates against each item 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.

11. The contractor whose bid is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher). 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 above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount. This total PG shall be deposited within the period specified in Schedule F. This guarantee shall be in the form of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank** 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 funds code No. If applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work within the period specified in schedule F.

12. The description of the work is as follows:

1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27..

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

13. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

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

15. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.

16. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

17. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.

18. The bid for the works shall remain open for acceptance for a period of Thirty (30) Days from the date of opening of tender.

(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.**

19. This notice inviting Bid shall form a part of the contract document. The successful bidders/contractor, on acceptance of his bid by the Accepting Authority shall within 15 Days from the stipulated date of start of the work, sign the contract consisting of:

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**.

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT

STATE	**U.P.**	Zone	**Ghaziabad**
BRANCH	**B & R**	DIVISION	**Ghaziabad Division-1**
REGION	**Lucknow**	SUB-DIVISION	AE/II

Percentage Rate Tender & Contract for Works

(A) Tender for the work of: **1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27.**

(B) To be uploaded by **15:00 Hours** on **03.11.2026** To/ upload at **http://etender.cpwd.gov.in.**

(C) To be opened in presence of tenderers who may be present at **15:30 Hours** on **03.11.2026** in the office of **Executive Engineer, Ghaziabad Division-1, CPWD, Ghaziabad.**

T E N D E R

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & 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. 1,58,853/-** is hereby forwarded the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank as earnest money.

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

Dated …………………**

Signature of the Contractor
Postal Address ----------------------**
Telephone No.-----------------------**

Witness:------------------------------**
Address:--------------------------------**
Occupation:------------------------**

FAX --------------------------------------**
E-MAIL -----------------------------------**

** **To be filled by Contractor**

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………*……

-*- To be filled by E.E.

Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE

PROFORMA OF SCHEDULES

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

SCHEDULE 'A'

Schedule of quantities (as per PWD.3) **Pages (civil work): 66**

SCHEDULE 'D'

Extra schedule for specific requirements/ document for the work, if any.	General conditions, Special Conditions, Particular Specifications etc as attached in tender form

SCHEDULE 'E'

Reference to General Conditions of contract.	**General Conditions of Contract Maintenance Works 2023 for CPWD works (as modified and corrected up to previous day of the last date of submission of the tender.)**
Name of Work	**1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27.**
Estimated cost of work	**Rs. 79,42,647/-**
Earnest money	**Rs. 1,58,853/-** (to be returned after receiving performance guarantee)
Performance guarantee	5% of the tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher). 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 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

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer inviting tender	**Executive Engineer, Ghaziabad Division-1, CPWD, AFS Hindan, Ghaziabad**
Price Preference to SC/ST individual contractor is valid Up to	**31.12.2025 (As per DG/Manual 2022/14 dated 01.01.2024)**

Definitions:

2(vi)	Engineer-in-Charge	**Executive Engineer, Ghaziabad Division-1, CPWD, AFS Hindan, Ghaziabad**
2(viii)	Accepting Authority	**Executive Engineer, Ghaziabad Division-1, CPWD, AFS Hindan, Ghaziabad**

2(x) Percentage on cost of materials and labour to cover all overheads and profits:	**15%**
2(x)(b) Standard Schedule of Rates	**DSR 2023 with up-to-date correction slips issued till last date of submission of tender.**
2(xi) Department	**Central Public Works Department**
9(ii) Standard CPWD Contract Form	**General Conditions of Contract Maintenance Works 2023 CPWD form 7 as modified and corrected up to previous day of the last date of submission of the tender.**

Clause 1

(i) Time allowed for submission of performance guarantee, programme chart (time and progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance.	**07Days**
(ii) Maximum allowable extension with late fee at 0.1% per day of performance guarantee amount beyond the period provided in (i) above	**03 Days**

Clause 2

Authority for fixing compensation under clause 2	**Chief Engineer, Ghaziabad Zone, CPWD, Ghaziabad or successor thereof**

Clause 5

Number of Days from the date of issue of letter of acceptance for reckoning date of start Mile Stone(s) as per below table:	**10 Days**

Time allowed for execution of work	**03 (Three) Months**

Authority to decide:

(i)	Authority to convey the decision of shifting of milestone and extension of time	**Executive Engineer, Ghaziabad Division-1, CPWD, AFS Hindan, Ghaziabad**
(ii)	Authority to decide Rescheduling of mile stones and extension of time	**Chief Engineer, Ghaziabad Zone, CPWD. Ghaziabad Or successor thereof**
(iii)	Shifting of date of start in case of delay in handing over of site	**Chief Engineer, Ghaziabad Zone, CPWD. Ghaziabad Or successor thereof**

Clause 6	
Computerized Measure Book (CMB)/Electronic Measurement Book (EMB)	
Mode of Measurement:	**Electronic Measurement Book (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. 26.48 Lakh or as per decision of Engineer-in-charge.

Clause 7A	
Whether Clause 7A shall be applicable	**Yes, Applicable**

Clause 8	
Competent Authorities to inspect and issue completion certificate	**Executive Engineer, Ghaziabad Division-1, AFS, Hindan, Ghaziabad**

Clause 10C	
Component of labour expressed as percent of value of work	**Not Applicable**

Clause 10CC	**Not Applicable**

Clause 11	
Specifications to be followed for execution of work	**CPWD Specifications 2019, Volume-I and II with up-to-date correction slips issued up to previous day of the last date of submission of e-tender (Herein after called CPWD specifications also) and manufacturer's specification wherever applicable.**

Clause 12	
Type of work	**Maintenance Works**
Deviation/variation/Extra item & Pricing	**As per Latest Amendment of GCC 2023**

Clause 16	
Competent authority for deciding reduced rates.	**Chief Engineer, Ghaziabad Zone, CPWD, Or successor thereof**

Clause 18	
List of mandatory machinery, tools & plants to be deployed by the contractor at site:	**As per site requirement & direction of Engineer-in-Charge**

Clause 19 C	
Authority to decide penalty for each default	**Executive Engineer, Ghaziabad Division-1**

Clause 19 D	
Authority to decide penalty for each default	**Executive Engineer, Ghaziabad Division-1**

Clause 19 G	
Authority to decide penalty for each default	**Executive Engineer, Ghaziabad Division-1**

Clause 19 K	
Authority to decide penalty for each default	**Executive Engineer, Ghaziabad Division-1**

Clause 25		
(i)	Conciliator	**ADG (RL), CPWD or his successor thereof.**
(ii)	Arbitrator Appointing Authority	**Chief Engineer, Ghaziabad, CPWD or his successor thereof.**
(iii)	Place of Arbitration	**Ghaziabad**

Clause 32

Requirement of technical representative(s) and recovery rate:

S. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical /Technical representative)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36 (i)	
						Figures	Words
1	Graduate Engineer Or Diploma Engineer	Civil	Project Manager Cum Planning/Quality /Site/Billing Engineer	2 years for Graduate Engineer Or 5 years for Diploma engineer	1 (One) No.	Rs. 15,000/- per month per person	Rs. Fifteen Thousand per month per person

NOTE:

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

2. Diploma holder with minimum 10year 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. Diploma holder with minimum 10year 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)	Schedule/ statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates **2023** printed by CPWD.	**DSR 2023** with up-to-date correction slips up to previous day of last date of submission of tender
(ii)	Variations permissible on theoretical quantities	
(a)	Cement for works with estimated cost put to tender not more than Rs. 25 lakhs	3% plus/minus
	For works with estimated cost put to tender more than Rs.25 lakh	2% plus/ minus
(b)	Bitumen all works	2.5% plus only and nil on minus side
(c)	Steel reinforcement and structural steel sections for each diameter, section and category	2% plus/ minus
(d)	All other materials.	Nil

Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE

GENERAL CONDITIONS

1.0 The work has to be carried out at AFS Hindan, Ghaziabad.

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) Description of item as per Schedule of Quantities
b) Additional specifications, Particular specifications and special conditions for civil and road works.
c) General conditions for this works.
d) **Contract Clauses of General conditions of contract for CPWD Works 2023**.
e) CPWD Specifications for civil works.
f) Indian Standard Specifications of BIS
g) Sound engineering practice as per directions of the Engineer-in-Charge.
h) Manufacturer's specifications.

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 upto last date of receipt of bids. 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. except testing charges 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, Octoroi, 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 livable 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 arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge. Contractor shall bear all Testing charges, Packing Charges of samples, Carriage from site to Laboratory etc.

14.0 The contractor shall quote his rates considering the specifications; terms & conditions and particular specifications and special conditions etc., and nothing extra shall be payable whatsoever unless otherwise specified.

15.0 The contractor shall be responsible for coordinating the activities of all works and essential progress of works as per milestone and laid down program.

16.0 The contractor shall be responsible for the watch and ward 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.

17.0 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 bid 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.

18.0 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 48 hours 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.

19.0 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.

20.0 The contractor shall require to make a sample flat each for up gradation works for approval of Engineer in charge.

21.0 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.

22.0 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.

23.0 The day-to-day receipt and issue accounts of different brands of cement shall be maintained separately in ERP by the Junior Engineer/Assistant Engineer-in-charge of the work.

24.0 The contractor should maintain the registers for cement, paint, water proofing compound and other materials as required by the Engineer-in-Charge in ERP.

25.0 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.

26.0 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.

27.0 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

28.0 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.

29.0 Movement of labour and traffic at site

29.1 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 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.

30.0 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.

31.0 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.

32.0 Environmental Management Action Plan

The contractor is required to abide the following instructions of environmental management action plan.

33.1 Pre-construction stage

33.1.1 All vehicles, equipment and machinery to be procured for construction will confirm to the relevant Bureau of India Standard (BIS) norms.

33.1.2 Emission from the vehicles must conform to environmental norms.

33.1.3 Sprinkling of water can mitigate dust produce from the vehicular movement and other site activities.

34.0 Construction of bins for disposal of waste

34.1 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.

34.2 Contractor will get approved the location of disposal site prior to commencement of the excavation on any section of the project location.

34.3 Contractor will ensure that any spoils of material will not be disposed off in any municipality solid waste collection bins.

35.0 Pollution

35.1 Water Pollution

a The Contractor will take all precautionary measures to prevent the waste water during construction to accumulate anywhere.

b The wastewater arising from the project is to be disposed off in the manner that is acceptable to the Engineer-in-charge and conforming to Delhi Pollution Control committee norms.

35.2 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:

d All vehicles and equipment used in construction will be fitted with exhaust silencers.

e 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.

f Noise emission from compactors (rollers) front loaders, concrete mixers, cranes (movable), vibrators and saws should be less than 75 db (A).

g 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 log10 (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.

36.0 Procurement of Construction Materials

a All vehicles delivering construction materials to the site will be covered to avoid spillage of materials and maintain cleanliness of the roads.

b Wheel tyres of all vehicles used by of the contractor, or any of his sub-contractor or material suppliers will be cleaned and washed clear of all dust/mud before leaving the project premises

c Contractor will 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.

d The unloading of materials which are required to be approved by the Engineer-in-Charge, at construction site will be restricted to daytime only. For this purpose, the information shall be given to the Engineer-in-Charge at least one day in advance.

36.1 Personnel Safety Measures for Labour

a This shall be ensured as per the CPWD Safety Code given in "General conditions of contract for CPWD works - 2020".

36.2 Risks from Electrical Equipment

A The contractor will comply the relevant industrial electrical safety legislations.

b 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.

c All necessary fencing and lights will be provided to protect the public.

d 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.

e 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.

f 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.

36.3 Plantation/preservation/conservation measures

a The contractor will take reasonable precaution to prevent his workmen and employees from removing and damaging any flora (plant/vegetation) from the project area.

b 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.

37.0 The contractor shall use double scaffolding in the work.

38.0 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.

39.0 Cement: -

39.1 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.

39.2 The cement shall be brought at site with tax invoice in bulk supply or as decided by the Engineer-in-charge.

39.3 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 as per sketch **of General conditions of contract for CPWD works-2014** with weather proof roofs and walls. The size of the cement godown is indicated in the sketch for guidance only. 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.

39.4 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 three Days of written order from the Engineer-in-charge to do so.

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

39.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract.

39.6 The theoretical, consumption of cement/bitumen 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.

39.7 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.

40.0 <u>Reinforcement</u>

40.1 The reinforcement shall conform to relevant BIS Specifications and it should be laid as per CPWD Specifications.

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

40.3 The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings, spacer blocks of required shape and size. Chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement.

40.4 To ensure proper cover, only factory-made round type cover blocks will be used to avoid displacement of bars in any direction.

40.5 The contractor shall procure thermo mechanically treated (TMT) steel reinforcement bars conforming to BIS 1786-2008 specifications of Fe 500-D grade and CPWD specifications from main producers as SAIL ,Tata Steel Ltd., RINL, Jindal Steel & Power LTD. and JSW Steel Ltd. or any other producer as approved by CPWD. The contractor shall have to obtain and furnish test certificate to the Engineer in charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to BIS codes, the same shall stand rejected and shall be removed from the site of work by the contractor at his own cost within three Days of written orders from the Engineer in charge to do so.

40.6 The steel reinforcement shall be brought at site as per direction of the Engineer-in-charge.

40.7 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.

40.8 The contractor shall supply free of cost the required steel bars for testing. The cost of tests shall be borne by the contractor.

40.9 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 42 of the contract and shall be governed by conditions laid therein.

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

40.9.2 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. 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.

(a) If the derived weight as in sub-para (iii) above is less than the standard weight as in sub-para (ii) above, than the Derived Actual Weight shall be taken for payment.

(b) If the derived actual weight is found more than the standard weight, than standard weight as worked out in sub para (ii) above shall be taken for payment nothing shall be paid extra for the difference in Derived Actual Weight and standard weight.

40.10 Mixing different types of grades of bars shall not be allowed.

40.11 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.

41.0 Water:

41.1 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.

42.0 Form Work:

42.1 The work shall be done in general as per CPWD Specifications 2019 Vol-I & II.

42.2 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.

42.2.1 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.

42.2.2 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.

42.3 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.

42.4 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.

42.5 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.

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

42.7 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.

42.8 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.

42.9 Work is mainly related to maintenance work.

43.0 Other Conditions:

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

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

3. 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 materials to ensure that no construction material dust fly outside the plot area.

4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purpose/or are carrying construction materials 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.

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

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

7. 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.

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

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

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

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

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

13. The contractor shall ensure that the construction materials are 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.

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 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 tenders.

3 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.

4 Wherever desired by Engineer-in-charge, the contractor shall also construct a sample unit complete in all respect within time specified by the Engineer-in-charge & this sample unit shall be got approved from the Engineer-in-charge before mass construction is taken up. No extra claim, whatsoever beyond the payment due at agreement rates, will be entertained to the contractor on this account.

5 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.

6 If as per municipal rules, or due to any other restrictions, the huts for labourers are not to be erected at the site of work by the contractors, then the contractors shall provide such accommodation at such locations as are acceptable to local bodies, or contractor shall make his own alternative arrangement for stay of labourers outside the site of work, for which nothing extra shall be payable.

7 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. However, payment for centering, shuttering, if required to be done for floor heights greater than 3.5m, shall be admissible at rates arrived at, in accordance with clause 12 of the agreement, if not already specified otherwise.

8 The working drawings appearing at para 8.1(iii) of conditions of contract in the form CPWD-7, shall mean to include both architectural and structural drawings respectively. The structural and architectural drawings shall be properly correlated before executing the work. In case of any difference noticed between architectural and structural drawings, final decision, in writing of the Engineer-in-charge shall be obtained by the contractor before proceeding further.

9 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.

10 Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restriction / instructions and nothing extra shall be payable on this account.

11 Other agencies doing works related with this project will also simultaneously execute the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, opening etc., for laying/burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for other agencies. Conduits for electrical wiring/cables will be laid in such a way that they leave enough space for concreting and do not adversely affect the structural members. Nothing extra over the agreement rates shall be paid for the same. The contractor shall extend necessary co-operation to other such agencies without any claim on this account.

12 Cast iron pipes and fittings without ear shall be used. However, pipes and fittings with ears may be accepted without any extra payment. In such cases, clamps are not required and no extra payment shall be made for fixing the pipes in a different manner**.**

13 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.

14 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.

15 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.

16 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.

17 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.

18 The work pertaining to the items of internal finishing should be started in consultation and with prior approval of Engineer-in-Charge as soon as the structure of two floors is completed.

19 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.

20 Dismantling of cement concrete floors inside the quarters shall be done with the help of mechanized vibratory hammer, drills etc. The work shall be carried out in such a way that there should be least disturbance to the adjoining allottees and work should be completed

within least possible time. The contractor must ensure that there should be no damage to the supporting RCC members.

21 TESTING OF MATERIALS

(a) Samples of various materials required for testing shall be provided free of cost by the contractor. Cost of Sample of materials including testing charges is to be borne by the contractor & he/she is responsible for safe custody of Sample to be tested. 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. Testing charge in respect of failed sample will be recovered from the contractor.

(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 balance3 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.

22 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.

22 The work is required to be executed in odd hours and the agency shall plan the work to be carried out accordingly.

24 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.

25 Existing drains, pipes, cables, overheads wires, sewer lines and water lines and similar services encountered in the course of the execution of the work shall be protected against the damage by the contractor at his expenses. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

26 Malba received from site shall be removed to designated site (fixed by Engineer in charge) on same day, otherwise it will be removed and a penalty of Rs. 500/- shall be imposed on the contractor for each day of default

27 **If the material as instructed is not brought to the site within 7 Days from the date of start of work, Earnest money shall be forfeited by Engineer in charge or his authorized representative by giving notice through site order book.**

28 Before dismantling the structure / item the contractor shall bring the entire material required for particular job at site after getting the sample approved from the Engineer in charge.

29 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.

30 For mixing of mortar, M.S. sheet must be used over the brick platform. Mortar should not be mixed on road or floor or on garden. In case mortar / concrete is mixed on floor or on road etc., a recovery of Rs. 1000/- shall be made for each default. Malba should not be dumped over green grass / plants.

31 Splashes on the floors, walls, glasses & other places must be removed after completion of work. Glass panes must be cleaned after completion of works. In the event of failure to clean splashes the work of cleaning will be got done at the risk and cost of the agency.

32 Due to restriction of driving slow moving vehicle / hand driven rickshaw in NDMC areas, it is required that contractor should not operate the hand driven rickshaw. Contractor has to make his own arrangement of desired transportation & nothing extra shall be payable on this account.

33 Before starting the work the contractor shall chalk out a programme in consultation with the Junior Engineer / Assistant Engineer in charge so as to inform the occupants in advance. The contractor shall have to adhere this programme, failing which he shall be held responsible for any inconvenience caused to the occupants. In order to ensure that the work is carried out according to the programme drawn up, the contractor shall ensure adequate supply of the material and employ required labour strength for execution of work. In case contractor fails to arrange / employ adequate labour and stick to the programme, the Engineer in charge may supplement the labour at the risk and cost of the contractor after issue of one day's notice to the contractor through site order book. No claim for idle labour shall be entertained. The contractor shall put his representative daily on site of work. His name & signature shall be attested by the contractor on the record for the department.

34 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.

35 The contractor should note that the items of work in any room shall be undertaken at one time, one after the other and completed at one stretch in reasonable time allotted for the same by Engineer in charge and got noted by the Junior Engineer in charge. Any item left over in any building will be got done at his risk and cost without any further notice (other than one entry in the site order book) to the contractor after one day from the date of entry in the site order book.

36 No T&P shall be supplied by the department.

37 Any damage done to the existing structure shall be made good by the contractor at his own risk and cost.

38 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.

39 The labour welfare fund / cess @1% of gross work done shall be deducted.

40 The contractors are advised to get acquainted with the proposed work and its site and also study the Architectural 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.

41. 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.

42. 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.

43. 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.

44. 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.**

45. The contractor(s) shall quote all-inclusive rates against the items in the schedule of quantities and **nothing extra shall be payable for any of the conditions and specifications** mentioned in the tender documents unless specifically mentioned otherwise.

46. No accommodation is available at the site of work. The lab our 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.

47. 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).

48. 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.

49 The Contractors will associate himself with specialized electrical contractor.

50. 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.

51. 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.

52. 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.

53 Minor variations (up to ± 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.

54. For mixing of mortar, M.S. sheet must be used over the brick platform. Mortar should not be mixed on road or floor or on garden. In case mortar / concrete is mixed on floor or on road etc., **a recovery of Rs. 1000/-** shall be made for each default. Malba should not be dumped over green grass / plants.

55. No Claim for Market Rate on extra items shall be payable unless the items and market rates are approved before execution by the competent authority.

56 The finishing/Painting of surface will be done by Roller/Brush to get even and smooth surface as per direction of Engineer-in-charge.

PARTICULAR SPECIFICATIONS

1.0 GENERAL

1.1) 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).

1.2.1) 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.

1.2.2) 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.

1.2) 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**.**

1.4) All the materials required to be tested shall be tested as per provisions of the relevant I.S. Codes. Should there be any difference between acceptances CRITERIA given in I.S. Codes, C.P.W.D. specifications and special conditions, the acceptance CRITERIA shall be in the following order of precedence:

1. Special conditions
2. C.P.W.D. Specifications
3. 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 for 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 payment shall be payable for the application of slurry coating on steel bars.

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 atendere 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 is 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 are 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, 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 Executive Engineer, Ghaziabad Division-I, AFS Hindan, Ghaziabad.

7.0 WATER PROOFING TREATMENT

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

2 Contractor shall also submit the names of water proofing specialist along with information about their technical capabilities and list of similar works executed by the specialized agency in the past for the approval of Engineer -in-charge within 30 Days from the date of award of work.

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

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

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

6 The approved specialized agency for the work of water proofing will have to execute a guarantee bond in prescribed Proforma enclosed at ANNEXURE I for removing any defects for at least 10 years. Guarantee bond shall be signed by both the specialized agencies as approved by the Engineer-in-Charge and the contractor to meet their liability under the guarantee bond. However, the sole responsibility about the efficiency of water proofing treatment shall rest with the building contractor.

7 10% of the cost of water proofing work shall be retained as additional security deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the agreement. If the performance of the work done is found unsatisfactory and any defects noticed during the guarantee period, they shall be rectified by the contractor within seven Days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of the contractor.

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 (up to 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 0.40sqm. Nothing extra shall be paid, for forming such openings. For similar areas exceeding 0.40sqm. 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 distributer accompanied with Test Certificate of the product with batch number & date etc complete as per the direction of Engineer –in- Charge.

8.0 CUT BRICK (MARUKONA)

Wherever cut brick (Marukona), as required under Para 6.2.4.7 of C.P.W.D. Specifications 2009 Vol. II, 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 these tender documents:

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-anodized as well as anodized 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 I.S., Designations EIWP/HVIWP alloy, with chemical composition and technical properties as per I.S. 733 and I.S. 1285, respectively.

9.4.3 Aluminum sections to be used for windows, ventilators and fixed glazing etc. shall be of Z section and be manufactured by reputed companies & shall be appropriate to meet architectural designs of relevant components. The aluminium extruded sections shall be of thickness 16 gauge (1.29mm)

9.4.4 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 show drawings 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 open able 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

9.6.1 (**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 ANODISING / ELECTRO COLOURING

9.7.1 Aluminium sections shall be anodized as per I.S. 7088-1973. Anodizing to be as per grade AC-15 and not less than 15 microns thick, when measured as per I.S. 6012, in matt Champagne electro colour with colour fastness rating No. 8 of 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 de-iodized water as per I.S. 1868 and / or 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 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 aluminium works shall conform to relevant I.S. standards relating to materials, workmanship & fabrications respectively. Codes including I.S. 1868-1982, I.S. 733-1983 I.S. 1948-1961, I.S. 7088-1973, I.S. 6012-1970, I.S. 1285-1975, I.S. 740-1975 respectively are considered relevant and applicable.

9.7.5 A thick layer of clear transparent lacquer based on methacrylates or cellulose sty rate shall be applied on the anodised 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 aluminium 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 open able 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 that items such as cleats/angles, other fixtures, nuts, bolts, screws etc., which shall be required for fabrication and erection of aluminium work as per this tender document, 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 di-oxide pigments for making it water-proof from exterior while allowing trapped water vapour breathability & Thyrotrophic 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 rutile (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, Parryware 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 IS: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 upto 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 upto 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 Performa.

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 order of preference in case of any discrepancy as indicated in condition no 8.1 under "Conditions of Contract" given in General conditions of contract for Central P.W.D. works 2019 form may be read as the following:

15.1 Description of item nomenclature in the schedule of quantities.
15.2 Particular specifications for Repair and Rehabilitation works (if applicable)
15.3 Particular specifications.
15.4 Additional and Special conditions.
15.5 Contract Clauses of General conditions of contract for Central P.W.D. works-2020.
15.6 CPWD specifications as mentioned in Schedule 'F'.
15.7 Architectural Drawings, if any.
15.8 Indian Standard Specifications.
15.9 Sound Engineering Practice.5

16.0 The words "Equivalent", "Approval" and authorized" in these specifications shall imply and require written approval of the Engineer-in-Charge.

17.0 The rates shall include the following:

17.1 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 tenderer should ensure that he has studied the drawings carefully and should seek any clarifications he may have room the Executive Engineer, in-charge of the work. No extra claims will be entertained later on.

17.2 Cutting, making and repairing of any holes/opening Junction Box for electrical purpose etc. required for any light fittings, loudspeakers, air-conditioning grills etc.

18.0 BORING OF TUBEWELL

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

2 Contractor shall also submit the names of Boring of Tubewell Specialized Agency along with information about their technical capabilities and list of Similar Works executed by the Specialized Agency in the past for the approval of Engineer -in-charge within 30 Days from the date of award of work.

3 Contractor shall submit the details of boring & pipe lowering in bore hole after completion of boring in tabular form with details of natural strata layers etc.

19.0 BITUMINOUS WORK

1. The contractor shall have to necessarily deploy self-propelled mechanical paver with suitable screeds capable of spreading, tamping and finishing the mix true to the specified lines, grades and cross sections of the road. The paver finisher shall have the following essential features:

   a) Loading hoppers and suitable distributing mechanism.
   b) All drives having hydrostatic drive/control.
   c) The machine shall have a hydraulically extendable screed for appropriate width requirement.
   d) The screed shall have tamping and vibrating arrangement for initial compaction to the layer as it is spread without rutting or otherwise marring the surface. It shall have adjustable amplitude and variable frequency.
   e) The paver shall be equipped with necessary control mechanism so as to ensure that the finished surface is free from surface blemishes.
   f) The paver shall be fitted with automatic leveling and profile control within the specified tolerances.
   g) The screed shall have the internal heating arrangement.
   h) The paver shall be capable of laying either 2.5 to 4.0m width or 4.0 to 7.0m width as stipulated in the contract.
   i) The paver shall be so designed as to eliminate skidding/slippage of the tyres during operation.

2. The contractor shall have to necessarily deploy the road rollers for BM, DBM & DBC for their compaction as per relevant MORTH specifications as described below:

(i)	For Initial Rolling	80 to 100 KN static weight smooth wheel roller (3 wheels or tandem)
(ii)	For Intermediate Rolling	Vibratory roller of 80 to 100 KN static weight or pneumatic tyred roller of 150 to 250 KN weight with minimum 7 wheels and minimum tyre pressure of 0.7 Mpa.
(iii)	For Final Rolling	60 10 80 KN tandem roller. The joints and edges shall be rolled with 80 to 100 KN static roller.

3. Mix shall be prepared in hot mix plant of adequate capacity and capable of yielding a mix of proper and uniform quality with thoroughly coated aggregate. The requirement of clause 504.3.4 of MORTH specification shall be strictly adhered to.

4. Being small quantity of DBM. BM & DBC, Engineer-in Charge is authorized se approve Job Mix Formula already approved/used and brought by the agency, subject to that the ingredients used for this work will be of the same source from where the ingredients were used in the Job Mix Formula already approved and now being approved for this work. No recovery on a/c of preparation of Job Mix Formula will be made from the agency.

5. TACK COAT

The work shall consist of application of single coat of low viscosity liquid bituminous material to an existing road surface preparatory to another bituminous construction over it. The binder used for tack coat shall be bitumen of suitable grade as specified in nomenclature of item.

a) The emulsified bitumen for tack coat on road shall be medium setting (MS) type conforming to 1S 8887-1995. The bitumen emulsion shall be brought at site in one lot in sealed drums and shall be got verified and checked by the representative of Engineer-in-Charge before its use.

The work shall be done strictly m accordance with clause 503 and sub-clauses thereto of MORTH specification for Roads & Bridges work (Fourth revision) 2001.

6. BITUMINOUS MACADAM

The work shall consist of construction, in single course, of compacted crushed stone aggregates used with bituminous binder, to serve as base/binder course, laid immediately after mixing on a previously prepared base in accordance with the requirement as per the specification as land down in clause 504

and sub-clause thereto of MORTH specification for Road & Bridge works 2001 (Fourth revision) and as directed by Engineer-in-charge.

7. MATERIAL

a) BITUMEN- Bitumen shall conform to grade and quantity as specified in nomenclature of the item.

b) AGGREGATE- Aggregate shall consist of crushed stone aggregate confirming to grading specifications as laid down in para 504.2.2 to 504.2.4 of MORTH specification 2001. No natural aggregate or sand shall be allowed.

(i) **RATE:**

The contract unit for the Bituminous Macadam shall be paid in full for carrying out all the required operations including full compensation for all components listed in clause 501.8.8.2 (i) to (xi) of MORTH specification 2001. The rate shall cover the provision of bitumen in the mix design @ 3.5% of weight of total mix with provision that variation of quantity on minus side is not allowed. However, no extra payment would be admissible for use of bitumen if the variation is on higher side i.e. beyond 3.5% of weight of total mix.

8. DENSE BITUMINOUS MACADAM

The work shall consist of construction, in single course of compacted crushed stone aggregate mixed with bituminous binder, to serve as base/binder course, laid immediately after mixing on a previously prepared base in accordance with the requirement as per the specification as laid down in clause 507 and sub-clause thereto of MORTH specifications for Roads & Bridges works 2001 (Fourth revision) or as directed by Engineer-in-Charge.

(i) MATERIAL

a) BITUMEN- Bitumen shall conform to grade and quantity as specified in nomenclature of the item.

b) AGGREGATE- Aggregate shall consist of crushed stone aggregate confirming to grading specifications as laid down in Para 507.2.2 to 507.2.5 of MORTH specification 2001. No natural aggregate or sand shall be allowed.

c) FILLER- Filler shall consist of hydrated line confirming to specification & grade as specified in clause 507.2.4 of MORTH specifications 2001.

(ii) RATE- The contract unit rate for the Dense Bituminous concrete shall be paid in full for carrying out all the required operations including full compensation for components listed in clause 501.8.8.2.(i) to (xi) of MORTH specification 2001. The rate shall cover the provision of Bitumen in the mixed design @5% of weight of total mix with provision that variation of quantity of minus side is not allowed. However, no extra payment would be admissible for used of bitumen if the variation is on higher side i.e. beyond 5% of weight of total mix.

9. DENSE BITUMINOUS CONCRETE

The work shall consist of constructing a single layer of specified compacted thickness of dense bituminous concrete consisting of crushed stone aggregate mixed with bituminous binder, to serve as wearing course, laid immediately after mixing on a previously prepared base in

accordance with the requirement as per the specification as laid down in clause 512 and sub-clause thereto of MORTH specifications for Roads & Bridges works 2001 (Fourth revision) and as directed by Engineer-in-Charge.

(i) MATERIAL

a) BITUMEN- Bitumen shall conform to grade and quantity as specified in nomenclature of the item.
b) AGGREGATE- Aggregate shall consist of crushed stone aggregate confirming to grading specifications as laid down in sub clause 509.2.2 to 509.2.5 of MORTH specification 2001 (Fourth revision) for roads & bridges works. No natural aggregate or sand shall be allowed.
c) FILLER- Filler shall consist of hydrated line confirming to specification & grade as specified in clause 509.2.4 of MORTH specifications 2001.

(ii) RATE- The contract unit rate for the Dense Bituminous concrete shall be paid in full for carrying out all the required operations including full compensation for components listed in clause 501.8.8.2.(i) to (xi) of MORTH specification 2001. The rate shall cover the provision of Bitumen in the mixed design @5.5% of weight of total mix with provision that variation of quantity of minus side is not allowed. However, no extra payment would be admissible for used of bitumen if the variation is on higher side i.e. beyond 5.5% of weight of total mix.

10. SEPARATION TEST

Scope: The separation of modifier and bitumen during hot storage is evaluated by comparing the ring and ball softening point of the top and bottom samples taken from conditioned, sealed tube of polymer modified bitumen. The conditioning consist of placing a sealed tube of modified bitumen in a vertical position at 163±5°C in an oven for a period of 48 hours.

Modified bitumen's relative stability to separation under storage in static conditions is determined in heated oven storage without agitation.

Apparatus: Aluminium Tubes-25.4 mm (1inch) diameter and 136.7 mm (5.5 inch) length blind aluminium tubes used to hold the sample during the conditioning.

Oven capable of maintaining 163±5°C
Freezer capable of maintaining - 6.7±5°C
Rack, capable of supporting the aluminium tubes in a vertical position in the oven and freezer.

Spatula and Hammer: The spatula must be rigid and sharp to allow cutting of the tube containing the sample when at a low temperature.

Procedure: Place the empty tube, with sealed end down in the rack. Heat the sample carefully until sufficiently fluid to pour. Care should be taken to prevent localized over-heating. Pass the Melton sample through IS 600-micron sieve. After thorough stirring, pour 50 gm into the vertically held tube. Fold the excess tube over two times, and crimp and seal.

Place the rack containing the sealed tubes in a 163 ± 5°C oven. Allow the tubes to stand undisturbed in to the oven for a period of 48 ± 4 hour. At the end of the period, remove the rack from the oven, and place immediately in the freezer at -6.7 ±5°C, taking care to keep the tubes in a vertical position at all times. Leave the tubes in the freezer for a minimum of 4 hours to solidify the sample completely.

Upon removing the tube from the freezer, place it on a flat surface. Cut the tube into three equal length portions with the spatula and hammer. Discard the center section, and place the top and bottom portions of the tube into separate beakers. Place the beakers into a 163 ±5°C oven until the bitumen is sufficiently fluid to remove the pieces of aluminum tube.

After thoroughly stirring, pour the top and bottom samples into appropriately marked rings for the ring-and-ball softening point test. Prepare the rings and apparatus according to Test Method IS 1205. The top and bottom samples from the same tube should be tested at the same time.

Report- Report the difference, in °C, between the softening points of the respective top and bottom samples as average of three specimens.

11 ELASTIC RECOVERY TEST

Scope: The elastic recovery of modified bitumen is evaluated by comparing recovery of thread after conditioning for 1 hour at 15°C and the specimen is elongated upto 10 cm deformation in a ductility machine. This is intended to assess degree of bitumen modification.

Significance & Use: This test is intended to optimize dose of polymeric additive in bitumen and help in assessing quality of CRMB.

Apparatus:

Ductility Machine-AS per IS 1208:1978.

Thermometer- An ASTM 63°C thermometer or any other standard thermometer of equivalent range shall be used

Scissors - Any type of conventional scissors capable of cutting modified bitumen at the test temperature.

Scale- Any transparent scale capable of measuring up to 25 cm with ±1mm accuracy.

Procedure:
Prepare the test specimens and condition as prescribed in Test Method IS 1208. Elongate the test specimen at the specified rate to a deformation 10 cm at a rate of 5 ± 0.25 cm/minute. Immediately cut the test specimen into two halves at the midpoint using the scissors. Keep the test specimen in the water bath in an undisturbed condition for 1 hour at specified temperature.

After the 1-hour time period, move the test specimen back into position near the fixed half of the test specimen so the two pieces of modified bitumen just touch. Record the length of the recombined specimen as X.

Report - Calculate the percent/ elastic recovery by the following procedure.

$$\text{Elastic Recovery (\%)} = \frac{10-X}{10} \times 100$$

CONDITION FOR PROCUREMENT AND ACCOUNTING OF BITUMEN

1. The contractor shall procure bitumen of required grade as specified confirming to 1S:73-1992 with upto date amendments and other relevant codes from the manufactures of repute like Indian Oil Corporation Ltd., Hindustan Petroleum, Govt. of India and holding license to use ISI certificate mark for their products.

2. MODE OF PROCUREMENT:

2.1 Bitumen/Bitumen emulsion for tack coat shall be brought at site in sealed drums only bearing following marking (legible)

(i) Name of Manufacturers.
(ii) Gross Wt.Net Wt. And Tare Weight.
(iii) Month and year of Manufacture.
(iv) Use before ……. (date).
(v) Type and Grade
(vi) Batch Number.
(vii) "ISI" Certification and Standard Mark.
(viii) Name of Contractor/Supplier.
(ix) Serial No. & Total Nos of drums in each batch.

2.2 For providing bituminous surface like BM, DBM etc., the bitumen shall be procured either in sealed drums or in bulk and stored at the hot mix plant site. The drums/container shall bear the marking as mentioned in para-2.1 above.

2.3 The contractor/Plant owner will produce original challan /voucher for purchase of bitumen and emulsion from **IOCL/HPCI/BP/HINCOL/Authorized Dealer** as a proof of having purchased the material form manufacturer. The voucher/challan shall be returned to the contractor after verification and making necessary endorsement.

2.4 Bitumen of specified grade shall be brought to plant site in one lot for theoretical requirement upto 100 tonnes and in lots of 100 tonnes or more for theoretical requirement of more than 100 tonnes. The day-to-day receipt and issue accounts of bitumen shall be maintained on the following proforma: -

PROFORMA FOR THE BITUMEN REGISTER RECEIPT

Date of Receipt	Qty Received	Progressive Total.	Date of Issue	Qty Issued.	Total Issued	Balance in hand	Cont's initial	JE's initial
1	2	3	4	5	6	7	8	9

Item of Work for Which issued	Appx. Qty. of work done on each day	Theoretical fulfillment Remarks of bitumen for work done on each day?	Remarks	Initial of AE/AEE/EE.
10	11	12	13	14

2.5 When bitumen is issued /brought in drums, the same shall be stacked in fenced enclosures to be provided by the contractor at his own cost, as directed by the Engineer-in-Charge on one side of the roadway. The contractor shall be responsible for the watch & ward and safety of bitumen. The contractor shall facilitate the inspection of bitumen stockyard by the Engineer-in-Charge or his representative at any time.

2.6 Material shall be kept in the joint custody of the contractor and the representative of the Engineer-in-charge. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in- Charge. No heating of bitumen in drums for any purpose whatsoever shall be allowed.

3 SAMPLING AND TESTING

The contractor shall have to obtain and furnish test certificate issued by manufacturer to the Engineer-in-Charge in respect of bitumen procured by him. The samples shall be collected at direction of Engineer-in-Charge and got tested as per provisions of IS:73/MORTH/CPWD specification from the laboratories approved by him.

3.1 The contractor shall supply free of charge, the bitumen required for testing. The cost of testing charges and specimen sample shall be borne by the contractor at his own cost.

In case the test result indicates that the bitumen procured by the contractor does not Conform to the relevant BIS codes/specification, the same lot shall reject and shall be removed from the site of work by the contractor at his own cost within a week's time of written order from Engineer-in-Charge to do so.

The bitumen content in bituminous mix shall be checked by conducting the bitumen extraction test conforming to IRCII at regular interval on the completion of work, the actual consumption of bitumen shall be worked out based on such test results. The theoretical consumption shall be worked out based on the design mix formula and the actual consumption (based on extraction test as well as MAS account) if found less than theoretical one, the recovery shall be made from contractor for less use of bitumen. However, nothing extra shall be paid if actual consumption so worked out is higher than theoretical consumption. This is without prejudice to action under relevant clause of the agreement.

Bitumen brought to site/Hot Mix Plant and bitumen remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in- charge.

NOTE: Nothing extra shall be paid for cartage of bitumen to the site of work/plant.

SPECIAL CONDITIONS

1. No work shall be executed on Sunday/Holidays.

2. During execution of work, at least one supervisor shall be made available at site.

3. Contractor is to adhere to all security instructions of the AFS, Hindan & other secured campus.

4. Working hours for execution shall be up to Sun-Set only.

5. The work is to be executed under high security check due to this; some labour may be waste for which nothing extra shall be paid. Agency will work in coordination with the client Department.

6. As per security norms of Air Force Station Hindan, the agency has to complete and submit the required document for entry in Air Force Hindan, before start of work and no hindrance will be entertained on this account.

SPECIAL CONDITION FOR NGT:

The guidelines regarding preventive measures for Air Pollution from demolition & construction activities issued by Delhi Pollution Control Committee vide no. DPCC/EIA/Res-001 to 172 /NGT-21/2015/225-408 dated 17.04.2015 in compliance of Hon'ble National Green Tribunal directions are applicable to the contractor. All appropriate protection measures as per NGT & DPCC guidelines shall be taken by the contactor at his own cost. Nothing extra shall be payable to the contractor on this account.

Hon'ble National Green Tribunal in its order dated 04.12.2014 in respect of air pollution from dust resulting from demolition and construction activity inter-alia has directed as follows:

I. No government, authority, contractor, builders or any person would be permitted to store/dump construction material or debris on metalled road.

II. Beyond the metalled road the area where such the construction material or debris can be stored shall be physically demarcated by officers of all the concerned Authorities/Corporation ensuring that it would not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured that no accidents occur on account of such permissible storage.

III. Every builder, contractor or person shall ensure that the construction material is covered by tarpaulin and all other precaution should be taken to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
It shall also be ensured that appropriate protection measures are taken by raising wind breakers of appropriate height on all sides of the plot/area using plastic and/or other similar material to ensure that no construction material dust fly outside the plot are and 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 by 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 pay compensation which would be determined by Tribunal in accordance with law.

IV. All the trucks or vehicles of any kind which are used for construction purposes/ are carrying construction material like cement, sand and other allied material should be fully

covered. The vehicles should be properly cleaned should be dust free and every necessary precautions is to be taken to ensure that enroute their destination, the dust, sand or any other particles are not permitted to be released in air/contaminate air. Any truck not complying with the above directions would not be permitted to enter NCR, Delhi.

Hon'ble National Green Tribunal in order Dated 10.04.2015 interalia has directed as follows:

1. Every builder or owner shall put tarpaulin on scaffolding around the area of construction and the building. No person including builder, owner can be permitted to store any construction material particularly sand on any part of the street, roads in any colony.
2. The construction material of any kind that is stored in the site will be fully covered in all respects so that it does not disperse in the Air in any form.
3. All the construction material and debris shall be carried in the trucks or other vehicles which are fully covered and protected so as to ensure that the construction debris or the construction material does not get dispersed into the air or atmosphere, in any form whatsoever.
4. The dust emissions from the constructions site should be completely controlled and all precautions taken in that behalf.
5. The vehicles carrying construction material and construction debris of any kind should be cleaned before it is permitted to ply on the road after unloading of such material.
6. Every worker working on the
7. construction site and involved in loading, unloading and carriage of construction material and construction debris shall be provided with mask to prevent inhalation of dust particles.
8. Every owner and or builder shall be under obligation to provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emissions.
9. It shall be the responsibility of every builder to transport constructions material and debris waste to construction site, dumping site or any other place in accordance with rules and terms of this order.
10. All to take appropriate measures and to ensure that the terms and conditions of the earlier order and these orders should strictly comply with by fixing sprinklers, creations of green air barriers.
11. Compulsory use of wet jet in grinding and stone cutting.
12. Wind breaking wall around construction site.
13. All the builders who are building commercial, residential complexes which are covered under the EIA Notification 2006 shall provide green belt around the building that they construct. All authorities shall ensure that such green belts are in existence prior to issuance of occupancy certificate.
14. All builders shall ensure that C&D waste is transported in terms of this order to the C&D waste site only and due record in that behalf shall be maintained by the builders, transporters and NCR of Delhi.
15. Even if constructions have been started after seeking environmental clearance under 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 aforestated shall be entitled to direct stoppage of work.

Environmental Impact Assessment Guidance Manual for Building, Construction, Township and area development Projects of February, 2010 is available on the website

of MoEF & CC envisaging the following guidelines for mitigation measures in respect of dust control from Building, Construction Projects:

"Adopting techniques like, air extraction equipment, and covering scaffolding, hosing down road surfaces and cleaning of vehicles can reduce dust and vapour emissions. Measures include appropriate containment around bulk storage tanks and materials stores to prevent spillages entering water courses.

The others measures to reduce the air pollution on site are:-

- Sprinkling of water and fine spray from nozzles to suppress the dust.
- On-Road-Inspection should be done for black smoke generating machinery.
- Promotion of use of cleaner fuel should be done.
- All DG sets should comply emission norms notified by MoEF.
- Vehicles having pollution under control certificate may be allowed to ply.
- use of covering sheet to prevent dust dispersion at buildings and infrastructure sites, which are being constructed.
- Use of covering sheets should be done for trucks to prevent dust dispersion from the trucks, implemented by district offices.
- Paving is a more permanent solution to dust control, suitable for longer duration projects. High cost is the major drawback to paving.
- Reducing the speed of a vehicle to 20kmph can reduce emissions by a large extent.

Speed bumps are commonly used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, it may be necessary to divert traffic to nearby paved areas.

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."

By way of these orders/notice you are hereby notified for mandatory strictly adherence to and compliance of the directions contained in the order of Hon'ble Tribunal as well as MoEF guidelines, 2010 in relation to precautions required to be taken while carrying on construction activities.

Copy of NGT orders dated 04.12.2014; 10.04.2015 copy of MoEF guidelines 2010 and copy of notice issued are available at the DPCC website also i.e. "http//dpcc.delhigovt.nic.in."

Please note that the non-compliance of Hon'ble NGT order will make you liable for action as per law including the directions for stoppage of work.

LIST OF PREFERRED MAKES FOR CIVIL WORKS

Makes of materials to be used in the work are as under. In case of non-availability of these makes, the engineer-in-charge may allow use of alternative BIS make of materials in the work. Material shall only be used after approval of sample by Engineer-in-charge. Non-BIS marked materials may be permitted by the Engineer-in-charge.

Sr. No.	Material Description	Approved Manufacturer/Brand Name
1	Ready Mix Concrete	Ultratech Concrete, ACC Ready Mix, RMC India and VKRMC, LAFARGE, Cemex Concreate India Pvt Ltd.
2	Cement (PPC/OPC)	ACC, Ultratech, Ambuja, JK Cement, Shree Cement, Bangur.
3	White Cement	Birla White, JK White, Ultra-Tech.
4	TMT Bars-Fe500D or more	SAIL, Tata Steel Ltd., RINL, Jindal Steel & Power Ltd., JSW Steel Ltd.
5	Water proofing compounds, admixtures, plasticizer, super plasticizer, curing compounds	Fosroc, ROFF/Dr. Fixit (Pidilite Industries), Sika, BASF, CICO, Asian Paints, Technonicol.
6	Integral water proofing compound with cement (for plaster & mixer)	Fosroc: Conplast 421, Dr Fixit: LW+, Sika: Sikacim, BASF, STP Ltd, ArdexEndura, Perma Construction Aids Pvt. Ltd.,Asian Paints.
7	Water Proofing compound for bathroom/toilet/balcony & other wet areas	Fosroc: Push Bond, CICO: Tapecrete, Dr. Fixit: Pidifine 2K, Sika: Topseal 107, Asian Paints: Damp Block 2K & equivalent product of BASF,
8	Crystalline water proofing compound	CRYTON, PENTRON, SIKA, CICO, FOSROC, ASIAN PAINTS, XYPEX
9	Grouts, Tile Adhesive	Laticrete, STP Ltd. Kajaria, BASF, Perma, Ardex Endura, JK White & Ferrous Crete, Fosroc, pidilite.
10	Structural Steel	SAIL, Tata Steel, RastriyaIspat Nigam Ltd (RINL), and JSW Steel Ltd., Jindal Steel & Power Ltd. Mahaveer, Capital, Rana
11	Polycarbonate Sheet	GE Plastic, LEXAN & MG Polyplast, polygal, Danpalon, Coswell.
12	Profile Steel Sheet	Ezydeck of TATA, LloyedSuperdeck, JSW, Jindal, Bhushan, Asian.
13	Particle Board	Archidply, Greenply, Duro, CROSSBOND, Century.
14	Laminates	Greenlam, Century Ply, Archidply, Duro
15	Flush Door Shutters	Duro, Century, Durian, Archidply, Green Ply, JAYNA (Jain Wood Industies), Greenlam, GREENPANEL & Orion doors

		(Note: Only ISI marked flush door shutters material to be used).
16	Fire rated Doors metallic	NAVAIR, i-clean, Shakti Hormann, Pacific, Bhawani Fire, if fire rated glass is integral part of fire rated door than it should be of one of the following make: Pyroguard, Saint Gobain, Asahi India, Pilkington & Schott.
17	(A) Calcium Silicate False Ceiling	Aerolite, BSR, Calsi Ceiling, Metroc, Dynamix.
	(B) Mineral Fiber False Ceiling	Bollard, Armstrong, Metroc.
	(C) Metal False Ceiling	Bollard, Royal Kraft, Armstrong, Hi-steel, Durlum, Hanter Douglas, Gyptech.
18	Plywood/Veneer	Greenply, Century, Durian, Archidply.
19	Melamine Polish	Asian Paints, Wudfin of Pidilite&Timbertone of ICI Dulux, Kansai Nerolac, Berger
20	Floor spring & door closer	DORMA, Geze, Assa Abloy, Ozone, Yale, Saint Gobain.
21	Aluminium Section	Hindalco, Jindal & Indian Aluminium Co.
22	Anodized Aluminium Hardware (Heavy Duty)	Kilong, Alualpha, Classic &Ebco,
23	Aluminium Shuttering	Knest, S Form, Durand Forms (India) Pvt. Ltd. &Mivan
24	Aluminium Composite Panel (ACP)	EUROBOND, CROSSBOND, ALUDECOR.
25	Clear/Float/Frosted/Toughned Glass/Refractive Glass structural glazing/skylight/hermetically sealed.	Saint Gobain, Modiguard, Asahi Float, gold plus glass industries, AIS.
26	Stainless Steel Railing, Accessories (Material).	OZONE, Dormakaba, GEZE, Q-railing, Jindal Stainless steel Ltd, Godrej, Hardwyn.
27	S. S. Fittings for doors & window	Dormakaba, Geze,AssaAbloy, Godrej, Jindal, Ozone.
28	Silicon based water repellant/weather sealant	Dow Corning, Waker, BASF &Pidilite (Dr. Fixit/Roff), GE Plastics.
29	Poly-Sulphide Sealant/Poly-Urithine	Fosroc, Pedilite (Dr. Fixit/Roff) Sika & BASF
30	Mosaic tiles/Chequered tiles	NITCO, Ultra Tiles,Oswal Industries, Hindustan Tiles, RAK, Orient.
31	Glaze Ceramic Tiles	Kajaria, Vermora, Ambani Tiles, Somany, Johnson, RAK, Hindware
32	Vitrified Tiles (Antiskid/Matt/Glazed)	Kajaria, NITCO, Johnson, Somany, RAK, Ambani tiles, Hindware
33	Paver Block, KerbStone, Grass Pavers.	NITCO, Oswal Industries, Hindustan Tiles, Dalal, KK Pavers.
34	White Cement Based wall Putty	Asian Paints, Birla wall care, JK wall, Dulux wall putty, Berger.

35	Oil Bound Washable Distemper/Dry Distemper	Asian Paints (Professional Acrylic Distemper), Nerolac: Beauty Acrylic Distemper, Berger: Bison Acrylic Distemper &Dulux ICI: Maxilite,
36	1st quality acrylic Distemper (Washable/ready mix/Low VOC)	Asian Paints, (Tractor Aqua Lock Paint), Berger: Commando or equivalent paints of Nerolac & ICI Dulux,
37	Acrylic Emulsion Paints	Asian Paints: (Professional Premium Interior Emulsion Paint), Nerolec: Beauty Gold, Berger: Rangoli Total Care & ICI Dulux: Super Cover
38	Plastic Emulsion Paint	Asian Paints: (Apcolite Heavy duty Premium Emulsion Paint), Nerolac: Impression, Berger : Easy clean & ICI Dulux: 3 in 1,
39	Premium Acrylic Emulsion Paints (Interior)	Asian paints: (Royle Luxury Emulsion), Nerolac: Impression, Berger: Silk & ICI Dulux: Velvet Touch,
40	Textured Exterior Paint	Asian Paints, Nerolac, Berger Paints, Ultratech Paints &Luxture
41	Acrylic Smooth Exterior Paint	Asian Paint: (Apex/Professional Premium Exterior Emulsion), Nerolac: XL, Berger: Wather Coat & ICI Dulux: Weather Shield
42	Premium Acrylic Smooth Exterior Paint with Silicon Additive	Asian Paint: Apex Ultima, Nerolac: XL Total, Berger: Weather Coat All Guard & ICI Dulux: Weather Shield Max,
43	Synthetic Enamel Paint	Asian, Paints: Apcolite Premium Gloos Enamel, Nerolac: Synthetic Hi Gloss, Berger: Luxol Hi Gloss, ICI Dulux: Gloss Synthtic Enamel,
44	Cement Primer	Nerolac, Berger (BP White), STP Ltd, Asian (Decoprime WT) & ICI (White Primer)
45	Steel Primer (Red Oxide Zinc Chromate Primer)	Asian Paints, Nerolac, Berger, ICI,
46	Wood Primer& Epoxy Primer.	Asian Paints (Wood Primer-White/Pink), DuluxICI, Kansai Nerolac, Berger.
47	Epoxy Paint	Asian Paints, STP Ltd, Nerolac, Berger, ICI, Kansai, Akzo Nobel,
48	Fire Paint	Asian Paints, STP Ltd, Akzo Nobel, PROMAT & JOTUN,
49	G.I./M.S. Pipe	TATA, Jindal (Hisar), Prakash Surya, APL-Appollo,
50	G.I. Fittings	Unik, AVR, Zoloto, Jindal
51	HDPE Pipes	Reliance, ORIPLAST, Supreme, Dutron, PRAYAG

52	DI Pipe & Fittings	Electrosteel, Jindal, TATA Ductura, Kapilansh, Kesoram, SKF.
53	U-PVC Pipes & Fittings	Astral, Supreme, AKG, Ashirwad
54	S.W. Pipes (BIS approved)	Anand, Parry, Perfect.
55	Centrifugally Cast (Spun) Iron Pipes & Fittings/Hubless Pipes & Fittings	NECO, Kapilansh, SKF, Raj Pattern Makers & Founders Pvt. Ltd, Saint Gobain, BIC.
56	CI Manhole covers, frames, G.I. Gratings	NECO, SKF, Kapilash, RIF, BIC.
57	SFRC Manhole covers & Grating	KK, Jain, PragatiConcrete Udyog.
58	CP brass fittings (Superior Range)	Jaquar, Grohe, Roka, Kohler, Toto, (if mentioned in Item Jaquar or equivalent)
59	CP brass fittings (Normal Range)	ESSCO (By Jaquar), Parryware, CERA, Kervoit (Kajaria), Johnson, Hindware, Paryag, BLUES
60	Sanitary ware, fittings & accessories	CERA, Jaquar, Parryware, Hindware, Johnson, PRAYAG
61	Mirror Glass	Modi Guard, Saint Gobain, Asahi, PRAYAG
62	CPVC Pipe & Fittings	Astral, Supreme, AKG, Ashirwad.
63	Stainless Steel Sink	Jaquar, Parryware, Hindware, Neelkanth, Niralli, Jayna, Jaynam, PRAYAG
64	FRP Doors Shutters & Frame	Jayna, Fiberways, Jain doors, Pvt. Ltd.
65	Extruded Polystyrene insulation board	Dow Building Solution, Technonicol, Isofoam
66	Gypsum Plaster	Ferrous Crete, Gyproc Saint Gobain, Ultra Tech,Asian Paints.
67	Floor Hardener	Ironite, Perma, STP Ltd, Ferrok & Hardonate,
68	Modular Expansion Joint	Herculus, Sanfield Inida Ltd. &Vexcolt, CS
69	Glass wool, Rockwood.	Dow corning, UP Twiga&Isoyer, Lloyd.
70	U-PVC door/window/ventilator	Fenesta, Deceuninck, Rehau, AVSL, Aluplast, Duroplast, Encraft, Komerling, GTS, Greentech Window, SIMTA ASTRIX, PSP.
71	U-PVC doors and window hardware	Roto, Dorset, DNV Accado & Kinlong,
72	AAC block Adhesive	Ultra Tech, Perma, Ardex Endura & Ferrous Crete,
73	PVC water tank	Prince, Syntex, Vectus, Sheetal, Polycon, SPL, PRAYAG
74	AAC Block	MAX Blocks, UltraTech,Aerocon HIL & BILTECH ACE, Gravit,
75	Modular Kitchen	Godrej, Evok by Hindware, Hettich
76	M S Tubular Window & Pressed Steel Door frames	Jangid Engineering Works, AGFUV, SenHarvic, Navair Delhi & Sukriti Delhi,
77	Dash Fasteners/Anchors	Hilti, Bosch & Fischer
78	MBBR reactor, Multi grade Filter &	Degremont, OSDPL, Thermax ION Exchange,

	Activated Carbon Filter	
79	MBBR media	Cooldeck, MM Aqua, Eco Aqua & Ion Exchange,
80	Soild PVC/WPC Door Frames & Shutters	Plasto Green, Rajshree, Sintex, Jain Industries, Jain Doors Pvt. Ltd., Amulya.
81	Glow Studs	DARK EYE, Shakti, OSCAR
82	Bitumen emulsion	IOCL, HPCL, BPCL, IBP
83	Thermo Plastic paint	Asian, Berger, Thermoplast, OSCAR
84	Signages	Prolite, Glolite, Shakti, Vista, Tripathi Signange.
85	Toilet Cubicles	Green Laminate/Century /Merino
86	Welding Rods	D&H, Esab, Ador, Bohler, Advani Oerilikam
87	Steels Nuts & Bolts	Hilti, Bosch, Fiser, Wurth
88	Frameless Glass Doors with SS Patch Fitting	Dorma, Geze, Assa Abloy
89	SS Drapery Roads	Vista, Hunter Douglas, Mac, Jindal.
90	SS water Supply Pipes & Fittings	J-Press, Jindal, Rampart,
91	GRC Jali	Unistone, Birla white.
92	Heat resistant tiles	Thermatek, oswal Industries.
93	Factory made wooden frames & wire gauge shutters	DS Doors, Jain wood Industries, Cutting Creations.
94	Butterfly valve/NRV/Ball valves	Zoloto, Leader, Audco, Schell, L&T
95	POP Putty	Sakarni, Jk, Ashirwad, Adhar Shree
96	Fire rated Door Hardware fitting	Geze, Dorma, AssaAbloy
97	SS Railing Fabrication	Magnus, Rinox, Dorma, Kich, Qrailing,Technoraill.
98	Roller Blinds	Hunter Dougles, Vista, Mac, marvel, D. decor
99	Acoustic wall treatment & ceiling	Anutone, Armobory, Hunter Douglas
100	Water meter	Zoloto, Leader, Audco
101	SS Gratings	Chilly, Jaquar, Nirali, Prayag
102	PTMT Fitting	Polytuf, Prayag, Shakti

Note: In respect of other materials, any ISI marked materials can be used on the work after Approval of Engineer-in-charge.

SPECIMEN OF WORKERS IDENTITY CARD

NOTE: 1. This Card is valid only for specified working place/place of duty. 2. The Contractor is fully responsible for any misuse of this card beyond duty hours/Days. 3. The Contractor bears responsibility for the character Card holder worker.	Sl. No..... **WORKERS IDENTITY CARD** Name of Agency with address: Telephone No./Mobile Registration No.: VALID UPTO

Name of Worker: Present Address: Permanent Address: Identification Mark: Place of Duty	Photo Signature of Worker Signature of Contractor:

Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE

ANNEXURE-I

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, Ghaziabad Division-1, CPWD, Ghaziabad** on behalf of the President of India (hereinafter called "The Government") has invited bids under **105/EE/GD-1/2026-27** dated……. For **1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27..** 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) …… (Here in after called "the Contractor") for compliance of his obligations in accordance with the terms and condition of the said NIT.

   OR**

   Whereas the **Executive Engineer, Ghaziabad Division-1, CPWD, Ghaziabad** 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 **1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27..** The Government has further agreed to accept an irrevocable Bank Guarantee for Rs…… ((Rupees…… only) valid upto ……. (date)……. as **Performance Guarantee /Security Deposit/Mobilization Advance** from the said contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We,_____ (indicate the name of the bank) …… (herein after referred to as "the Bank" hereby undertake to pay to the Government an amount not exceeding Rs…… (Rupees…… only) on demand by the Government within 10 Days of the demand.

3. We,_____ (indicate the name of the bank) …… do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs……. (Rupees…… only).

4. We,…… (indicate the name of the Bank) ……., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our

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

5. We, ……..…. (indicate the name of the Bank) …… further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. We, …… (Indicate the name of the Bank) …….. further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a Principal debtor at the First instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.

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

8. We,…… (Indicate the name of the Bank)…… undertake not to revoke this guarantee except with the consent of the Government in writing.

9. This Bank Guarantee shall be valid up to…….. unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs…… (Rupees…… only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharge.
   Date…….

   Witnesses:

   1. Signature…….
      Name and Address

      Authorized Signatory
      Name
      Designation
      Staff code no.
      Bank seal

   2. Signature …….
      Name and Address

* Date to be worked out on the basis of **validity period of 90 Days** where only financial bids are invited and 180 Days for two/three bid system from the date of submission of tender.
** in Paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee/security deposit/mobilization advance, as the case may be.

ANNEXURE-II

GUARANTEE TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS.

The agreement made this……day of …… Two Thousand …….. Between ……..S/o of Shri …….. (Hereinafter called the GUARANTOR of the one part) and the President of India (hereinafter called the Government of the other part).

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

AND WHEREAS THE GURANTOR agreed to give a guarantee to the effect that the said work will remain water and leak proof, for FIVE years from the date of giving water proofing treatment.

NOW THE GUARANTOR hereby guarantees that work executed 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 of expiry of maintenance period prescribed in the contract.

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

During the period of guarantee, the guarantor shall make good all defects and in case of any defect found render the building water proof to the satisfaction of the Engineer in Charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantors cost and risk The decision of the Engineer in Charge as to the cost payable by the Guarantor shall be final and binding.

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

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

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

1……. 2……

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY……

1……. 2…….

ANNEXURE-III

FORM OF BANK GUARANTEE BOND FOR SECURITY DEPOSIT FOR THE WORK OF WATER-PROOFING WORKS

1. In considerable of the President of India (hereinafter called "The Government") having agreed to exempt …… (Here in after called the said contractor(s)) from the demand, under the terms and conditions of the Agreement No. …… dated ……. Made between …… and ……. For the work of …… (hereinafter called "The said Agreement") security deposit for the due fulfillment by the said contractor(s) of the terms & conditions contained in the said Agreements for the work of Anti termite Treatment water proofing work on production of a irrevocable Bank Guarantee for Rs. …… (Rupees …… only), for FIVE years we ……. (Indicate the name of the bank) (Here in after referred to as "the Bank) hereby undertake to pay to the Government an amount not exceeding Rs. …… (Rupees …….. only) on demand by the Government.

2. We ……. (indicate the name of the bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, 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(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under the Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. …… (Rupees ……..... only).

3. We ……. (indicate the name of the bank) further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

   The payment so made by as under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We ……. (indicate the name of the Bank) further agree that the guarantee hereinafter contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-charge on behalf of the Government certified that the terms and condition of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.

5. We …… (indicate name of the bank) further agree with the Government that the government shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) 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(s) and to for bear 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 contractors(s) or for any bearance, act of commission of the part of the Government or any indulgence by the

Government to the said contractor(s) or by any such matter of thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of Bank or the contractor(s).

7. We ……. (Indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.

8. This guarantee shall be valid upto …… unless extended on demand by Government. Now withstanding 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 six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Date the ……..…… day of …….. for
……... ……(Indicate the name of Bank)
……..

SCHEDULE OF QUANTITIES

Name of work: 1. Repair and Replacement of windows in Domestic area dg 2026-27. 2.Prvn of Adtn & Altn Works of Doors in New SMQ's Quarter in Domestic area at AFS Hindan Ghaziabad dg. 2026-27

S.No	Description	Qty	Unit	Rate	Amount
1	Providing and laying in position excluding cement concrete of level: specified grade the cost of centering and shuttering - All work up to plinth				
1.1	1:2:4 (1 cement : 2 coarse sand (zone-Ill) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	5.00	cum	7878.5	39,393
2	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing:				
2.1	1:1.5:3 (1 cement : 1.5 coarse sand (zone-Ill) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	4.00	cum	10357.55	41,430
3	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 :				
3.1	Cement mortar 1:6(1 cement : 6 coarse sand)	13.00	cum	9105.95	1,18,377
4	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.				
4.1	Raj Nagar Plain white marble/ Udaipur green marble/ Zebra black marble				

Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE

4.1.1	Area of slab over 0.50 sqm	50.00	sqm	3078.4	1,53,920
4.2	Granite stone slab of colour black, Cherry/Ruby red				
4.2.1	Area of slab upto 0.50 sqnn	50.00	sqm	5413.5	2,70,675
5	Providing and fixing ISI marked oxidised M.S. sliding door bolts with nuts and screws etc. complete (Copper oxidised as per IS 1378)				
5.1	300x16 mm	104.00	each	216.55	22,521
6	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)				
6.1	250x10 mm	208.00	each	83.9	17,451
7	Providing and fixing ISI marked oxidised M.S. handles conforming to IS:4992 with necessary screws etc. complete (Copper oxidised as per IS 1378)				
7.1	125 mm	208.00	each	39.95	8,310
8	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS: 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :				
8.1	250x16 mm	50.00	each	260.6	13,030
9	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
9.1	150x10 mm	50.00	each	82.55	4,128
9.2	100x10 mm	400.00	each	64.7	25,880
10	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
10.1	125 mm	100.00	each	66.25	6,625
10.2	100 mm	200.00	each	59.55	11,910

11	Providing and fixing Fiber Glass Reinforced plastic (FRP) Door Frames of cross-section 90 mm x 45 mm having single rebate of 32 mm x 15 mm to receive shutter of 30 mm thickness. The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat. Door frame laminate shall be 2 mm thick and shall be filled with suitable wooden block in all the three legs. The frame shall be covered with fiber glass from all sides. M.S. stay shall be provided at the bottom to steady the frame.	380.00	metre	570.95	2,16,961
12	Providing and fixing to existing door frames.				
12.1	30 mm thick Fiberglass Reinforced Plastic (F.R.P.) flush door shutter in different plain and wood finish made with fire retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate all around, with suitable wooden blocks inside at required places for fixing of fittings and polyurethane foam (PUF)/ Polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically with testing parameters of F.R.P. laminate conforming to table 3 of IS: 14856, complete as per direction of Engineer-in-charge.	195.00	sqm	4488.95	8,75,345
13	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
13.1	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	5000.00	kg	172.6	8,63,000
14	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.				
14.1	M.S. tube	2000.00	kg	196.8	3,93,600
15	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/mm2), 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.				

15.1	10 x 80 mm	650.00	each	137.65	89,473
16	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete.				
16.1	Galvanised M.S. Wire gauze with 0.63 mm dia wire and 1.4 mm aperture on both sides	432.00	sqm	844.7	3,64,910
16.2	Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides	200.00	sqm	1133.55	2,26,710
17	Providing and fixing angle iron frames for doors, windows and ventilators of mild steel Angle sections of size 35x35x5 mm, joints mitred and welded by angle iron 35x35x5 mm or 35x 5 mm flat pieces to the existing T-iron frame or to the wall with dash fastener, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer, all complete as per the direction of Engineer-In-charge.	3875.00	kg	130.5	5,05,688
18	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement: 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	200.00	sqm	1330	2,66,000
19	Providing and laying Vitrified tiles in diferent 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	10.00	sqm	1623.05	16,231
20	12 mm cement plaster of mix:				
20.1	1:6 (1 cement: 6 coarse sand)	700.00	sqm	343.65	2,40,555
21	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
21.1	Two or more coats on new work	2000.00	sqm	155.9	3,11,800

22	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
22.1	Of area 3 sq. metres and below	130.00	each	367.2	47,736
23	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.	200.00	sqm	54.65	10,930
24	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.	85.00	cum	263.95	22,436
25	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 / panelling, 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) :				
25.1	For fixed portion				
25.1.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	1700.00	kg	530.9	9,02,530
25.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
25.2.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	1950.00	kg	634.45	12,37,178

26	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):				
26.1	With float glass panes of 4.0 mm thickness (weight not less than 10kg/sqm)	200.00	sqm	1176.8	2,35,360
27	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	220.00	kg	638.35	1,40,437
28	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				
28.1	25 mm average thickness	150.00	sqm	126.75	19,013
29	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.				
29.1	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	150.00	sqm	141.2	21,180

30	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).				
30.1	25 mm average thickness in 2 layers.	150.00	sqm	587.35	88,103
	Total				78,28,826
	Modified with estimated cost after using with correction factor on DSR-2023 items on account of GST @0.973			(X)	76,17,448
	Add Cost Index @ 5% on DSR 2023 on (X)			(Y)	3,80,872
31	Credit for taking away old/rusted dismantled materials such as: -				
31.1	G.I. C.I. or M.S. pipes, fittings and section etc.	2000	kg	-25.00	-50,000
31.2	PVC Items Like Door, Door Frame, Cistern etc	100	kg	-6.90	-690
31.3	Aluminium Fittings Like Tower Bolt, Handles, Sliding Door Bolt etc	20	kg	-249.15	-4,983
	Total (X + Y + item no 31)=				**79,42,647**

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Addition: NIL Correction: NIL
Overwriting: NIL Deletion: NIL AE EE